STATE LIBRARY OF PENNSYLVANIA
main,stks 665.505P448
Petroleum age :
v.4 1885/1886 Petroleum Age
0 0001 00671690 4

Digitized by the Internet Archive
in 2019 with funding from
This project is made possible by a grant from the Institute of Museum and Library Services as administered by the Pennsylvania Department of Education through the Office of Commonwealth Libraries

https://archive.org/details/vol418851886petr00unse

THE

PETROLEUM AGE.

A MONTHLY MAGAZINE DEVOTED TO THE INTERESTS OF

THE PETROLEUM TRADE.

VOL. IV.

FEBRUARY, 1885, TO JANUARY, 1886.

BRADFORD, PA.:

McMULLEN, SNELL & ARMOR, PUBLISHERS

1886.

INDEX TO VOL. IV.

A.

Acme Oil Co. of Titusville, The, 1121.
Allegany Field, January Notes, 915.
February Notes, 939.
March Notes, 960.
April Notes, 991.
May Notes, 1013.
June Notes, 1038.
July Notes, 1079.
August Notes, 1093.
September Notes, 1119.
October Notes, 1145.
November Notes, 1171.
December Notes, 1205.
Aniline Color Industry, New Development in, 1012.
Atlas, A New, 1157.
Average Monthly Price of Oil since 1879, (table), 913, 935, 957, 986, 1008, 1048, 1075, 1091, 1129, 1140, 1180, 1203.

B.

Balltown Field, The Pioneer of. See Hon. Peter Berry, Balltown Oil Field History and Map, 1056.
Baldridge. See Thorn Creek.
Baldridge and Thorn Creek Runs. See White Sand Pools.
Beaver County Oil, 1193.
Berry, Hon. Peter, (with Portrait), 1051.
Bill, The Natural Gas, 1006.
Bill, The Robertson, 959.
Bill to Regulate Pipe Lines, 959.
Blakeslee, Lyman C., Obituary, 942.
Boyle, P. C., (with Portrait), 1096.
Bradford Field, January Notes, 915.
February Notes, 939.
March Notes, 160.
April Notes, 991.
May Notes, 1015.
June Notes, 1038.
July Notes, 1079.
August Notes, 1093.
September Notes, 1119.
October Notes, 1145.
November Notes, 1171.
December Notes, 1205.
Bradford Gas Light and Heating Co. and its Competitors, 1005.
Bradford Oil Exchange, (with Cut), 909.
List of Members, 910.
Broker, The Oil Must Go to New York, 930.
Brownson, W. W., Obituary, 1024.
Buffalo Lubricating Co. vs. The Standard, 1192.
Buffalo Oil Company, A, Sues the Standard, 964.
Butler and Armstrong, October Notes, 1146.
Other Months. See Lower Country.
Wild-Cat Wells, 1040.

C.

Character, A By-Gone, 1001.
Cherry Grove and Cooper Pipe Line Runs. See White Sand Pools.
Cogley Run Production from Pipe Line Runs, see White Sand Pools, 1131, 1142, 1166, 1203.
Chester County as a Prospective Oil Field, 929.
Chronicles of Thorn Creek. See Thorn Creek.
Chronology, Oil Region—January, 923; February, 931; March, 951; April, 982; May, 1007; June, 1068; July, 1069; August, 1089; September, 1132; October, 1139; November, 1167; December, 1199.
Cincinnati, Gas for, 1118.
Clark & Warren's Refinery at Corry, Pa., 1063.
Colorado Oil Field, The, 1134.
Clearances, Oil City Exchange, 959.
Clearances, Tables of. See Petroleum Market.
Coal Trade of Pittsburgh in Rapid Decline, 1092.
Country, The Lower, January Notes, 915.
February Notes, 939.
March Notes, 961.
April Notes, 991.
May Notes, 1015.
June Notes, 1039.
July Notes, 1080.
August Notes, 1093.
September Notes, 1120.
October Notes, 1145.
November Notes, 1172.
December Notes, 1206.
Crude, Monthly Average Price. See Average Price of Crude.
Crude Market Quotations. See Market Quotations, etc.
Crude Oil and Water for Fuel a Success, 1157.
Crude Petroleum Market. See Petroleum Market.

D.

Decline in Pittsburgh Coal Trade, 1092.
Decline of Thorn Creek, The, 1040.

E.

Early Use of Natural Gas for Fuel, 1201.
Exchanges, Bradford Oil, (with Cut), 909.
New York, Enlarged Quarters for, 1031.
Oil City, The, (with Cut), 975.
Exports, Petroleum, Amount and Value of, 1881–85, (table), 947, 970, 998.
Exports to China and the East. See Refined Market.
Exports of Petroleum, (table). See Petroleum Exports. Official Statement of the Bureau of Statistics. December, '84, 920; January, '85, 946; February, 969; March, 997; April, 1020; May, 1046; June, 1062; July, 1098; August, 1122; September, 1160; October, 1179; November, 1215.

F.

Field Operations Summarized, January 919.
February, 945.
March, 967.
April, 996.
May, 1019.
June, 1044.
July, 1074.
August, 1103.
September, 1123.
October, 1159.
November, 1178.
December, 1214.
Field Report of Operations. See Operations in the Entire Region.
Findlay Oil Field, The, 1147.
Foreign Lands, Petroleum in, 1001.
Foreign Ports, Stocks in. See Stocks Abroad.
Forest County. See Warren and Forest.
Foster, H. L., (with Portrait), 979.

G.

Gantz Well, The, 916.
Gas, Natural. See Notes on Natural Gas, etc.
Gas and Oil, On the Origin of, 949.
Gas Wells, Production of, 1081.
Geology of Natural Gas, The, by C. A, Ashburner, 1195.
Geology of Natural Gas, The, by I. C. White, 1161.
Geology of Natural Gas, Ashburner's Restrictions and White's Reply, 1162.
German Petroleum Trade, The, 1213.
Greene County, 1208.

H.

House Bill No. 33. See Oil Broker Must Go to New York.

K.

Kane, Echoes from, 1193.
Kane Oil Field, The, 1187.
(With Map), 1224.
Kern, Thomas E., Obituary, 942.

L.

Legality of Speculative Contracts, 1183.
Lies, Two Good Sample Oil Region, 1143.
Lower Country. Monthly Review. See Country, The Lower.

M.

Macksburg Field, The, 911, 968.
In February, 933.
In April, 988.
In May, 1023.
Macksburg Pipe Line Runs, 1067, 1091, 1123, 1159, 1166, 1203.
Main Track Shipments, '85, 1228.
Maps, Balltown Field, 1057.
Kane Oil Field, 1225.
Oil Regions of Pennsylvania and New York, 1136.
Washington Oil Field, 1181.
Market Quotations, The Crude—January, 920; February, 946; March, 969; April, 997; May, 1020; June, 1046; July, 1062; August, 1098; September, 1122; October, 1160; November, 1179; December, 1245.
Market. See Petroleum and Refined Market.
McCalmont Oil Co., Annual Report of, 1228.
Middle Field. See Warren and Forest
Mount Nebo, 1015.
Shoustown, etc., 1207.
Murphy, Michael, King of the Mystery Men, (with Portrait), 1027.

N.

Natural Gas, Geology of, The, (Ashburner), 1195.
(White), 1161.
Restrictions and Reply, 1162.
Natural Gas, Miscellaneous Items, 1006, 1034, 1082.
Natural Gas, Notes on, 954, 980, 1004, 1032, 1050, 1081, 1148.
Natural Gas and Petroleum, by Prof. Edward Orton, 1109.
Natural Gas, Acme Gas Co. Sold, 1032.
Analysis of, 981.
Armstrong County, 1005.
Bill, The, 1006.
Bellevernon, at, 981.
Benninghoff's Process for Smelting, 1061.
Bradford Gas Light and Heating Co., 1005.
Buffalo Natural Gas Fuel Co., 1216.
vs. Coal at Pittsburgh, 1033.
Chambers Natural Gas Co., 1108.
Chautauqua Gas Co., 1050.
Cincinnati, for, 1118.
Cleveland Wants a Well, 1033.
Companies Can Not Be Incorporated, 982.
Companies, Doings of the Gas, 1148.
Economy in Use of, 1081.
Erie, Pa., 1004.
Franklin for, 1032.
Franklin Natural Gas Company, 1050.
Fuel, Early Use for, 1201.
Garbage, for Consuming Pittsburgh, 1004.
Gasser, Another Big, at Murraysville, 1081.
Gassers, More, 1150.
Gas Wells, Production of, 1081.
Goetz Case, The, 1148.
Homewood, 954.
Illuminating Purposes, for, 1150.
Incorporated, Companies Can Not Be, 982.
Lyons Run, 980.
Manufacturers' Natural Gas Co., 1108.
Manufacture of Plate Glass, for the, 1088.
Miscellaneous Notes on, 1006, 1034, 1082.
Motive Power at Tarentum, for, 1148.
Murraysville, 954.
Murraysville, Another Big Gasser at, 1081.
New York State, in, 1106.
Northwestern Natural Gas Co., The, 1202.
Ohio, in, 1150.
Ohio, Biggest Gas Well in, 982.
Ohio, Companies in, 982.
Ohio, Northwestern, Wells of, 1032.
Oil City Fuel Supply Co., 1050.
Olean, Supply for, 1095.
People's Gas Co., 1192.
People's Gas Co. vs. The City of Pittsburgh, 1223.
Philadelphia Co. Purchases Carpenter Co., 1108.
Pittsburgh, 981.
Pittsburgh, 954.
Pittsburgh, Gas Memoranda, 1107.
Pittsburgh, Mills Using, at, 1079.
Pittsburgh's Gas Supply, 1148.
Plate Glass, for Manufacture of, 1088.
Shenango Natural Gas Co., 1032, 1082.
Smelting Iron, Steel and Gas, Benninghoff's Process, 1061.
Speechley Gas Well, The, 982.
Standard Oil Co.'s Gas Interests, 1148.
Tarentum, for Motive Power at, 1148.
Warren, New Gas Company at, 1163.
Washington County, 954.
Youngstown, Ohio, for, 981.
New York Exchange, Enlarged Quarters for, 1031.

O.

Ohio, Northwestern, Recently Discovered Sources of Natural Gas and Petroleum, (by Prof. Orton), 1109.
Oil Broker Must Go to New York, 930.
Oil City Oil Exchange, 975.
List of Members, 979.
Oil Fields of Pennsylvania and New York, Product and Exhaustion, (with Map), 1135.
Oil Region Lies, Two Good Sample, 1143.
Oil Region People, About Some, 1169.
Oil and Water for Fuel a Success, 1157.
Operations in the Entire Region, Wells, Rigs, etc.—Detailed Report for January, 917.
February, 943.
March, 965.
April, 993.
May, 1017.
June, 1041.
July, 1071.
August, 1099.
September, 1125.
October, 1159.
November, 1173.
December, 1209.
Operations, Field Summary. See Field Operations.
Origin of Gas and Oil, On the, 949.

P.

Pacific Coast Petroleum, 1177.
People, About Some Oil Region, 1169.
Permeability of Sand Rock, 1117.
Petroleum Exports, Amount and Value, 1881–1885, (table), 947, 970, 998.
Petroleum Exports, Tables of, 911, 938, 956, 987, 1011, 1186, 1217.
Petroleum Market, Crude, and Clearances—January, 913; February, 936; March, 957; April, 985; May, 1010; June, 1048; July, 1075; August, 1106; September, 1131; October, 1138; November, 1180; December, 1208.
Petroleum in Foreign Lands, 1001.
Petroleum Review for 1885, 1226.
Petroleum Storage, Regulation of, at Berlin, 984.
Petroleum Trade, The German, 1213.
Petroleum, Transport in Bulk, 1193.
Petroleum, Use of, in the Manufacture of Steel, 1090.
Petroleum in Vancouver's Island, 1156.
Peruvian Petroleum Field, The, 1104.
Pipe, Advance in the Price of, 1067.
Pipe Lines, Bill to Regulate, 959.
Pipe Line at Thorn Creek, A New, 1010.
Pipe Line Runs by Districts, (table), 921, 925, 947, 970, 998.
(Including Macksburg), 1182, 1202.
Pipe Line (National Transit Co.) Summarized Statements—January, 914; February, 938; March, 955; April, 986; May, 1012; June, 1035; July, 1076; August, 1103; September, 1131; October, 1156; November, 1182; December, 1202.
Pipe Line (Tidewater) Summarized Statements—January, 914; February, 938; March, 955; April, 986; May, 1011; June, 1035; July, 1076; August, 1103; September, 1131; October, 1156; November, 1182; December, 1202.
Pipe Line (United) Summarized Statements—January, 914.
Pipe Line Stocks, The, 955.
Product and Exhaustion of the Oil Fields of Pennsylvania and New York, by Charles A. Ashburner, (with Map), 1135.

17382

Production of Gas Wells, 1081.
Production Report—January, 925; February, 948; March, 973; April, 999; May, 1025; June, 1045; July, 1077; August, 1107; September, 1124; October, 1158; November, 1194; December, 1223.
Point Breeze Refineries at Philadelphia, 1092.
Premium on Middle Field and Lower Country Oil, A, 1070.
Publications, New, 1049.
Pyronaphtha, 1097.

R.

Raccoon Oil Co., The, 1228.
Random Notes, 934.
Refined Oil and Refiners, 1009.
Reduction in Pipe Line Stocks, 955, 1185.
Refineries, Acme Oil Co. at Olean, 1009.
Acme Oil Co. at Titusville, 1121.
Clark & Warren at Corry, 1063.
Point Breeze at Philadelphia, 1092.
Refined Market, January Quotations, 913.
February Quotations, 936.
March Quotations, 957.
April Quotations, 985.
May Quotations, 1010.
June Quotations, 1048.
July Quotations, 1075.
August Quotations, 1106.
September Quotations, 1130.
October Quotations, 1142.
November Quotations, 1183.
December Quotations, 1216.
Region, The Producing, January, 915.
February, 939.
March, 960.
April, 991.
May, 1013.
June, 1038.
July, 1079.
August, 1093.
September, 1119.
October, 1145.
November, 1171.
December, 1205.
Report of McCalmont Oil Co., The Annual, 1228.
Review of Crude Petroleum, 1885, 1226.
Rhigolene, 1067.
Robertson Bill, The, 959.
Rose, Hon. Robert H., (with Portrait), 1140.
Runs, Average Daily, (table). See Pipe Line Runs by Districts.
Runs, Shipments and Stocks—January, 912; February, 937; March, 958; April, 987; May, 1012; June, 1035; July, 1076; August, 1105; September, 1134; October, 1156; November, 1180; December, 1204.
Russian Petroleum Industry, The, by Boverton Redwood, 1002, 1059, 1091, 1113, 1144, 1163.
Russian Petroleum, Notes on, 952.
Russian Petroleum Production, 1863–1883, 953.
Russian Petroleum Production, 1883 and 1884, 990.
Russian Petroleum, Progress of, in 1885, 1204.
Russian Oil and Austrian Refineries, 1118.

S.

Sand Rock, Permeability of, 1117.
Scout, An English View of the, 1058.
Scouting Oil on Tug Fork, by P. C. Boyle, 1083.
Scouts, Two Famous, (with Portraits), 1095.
Shannon, Phillip Martin, (with Portrait), 1037.
Shipments, Main Track, 1885, 1228.
Shipments (by Months). See Runs, Shipments and Stocks.
Shoustown, Mt. Nebo and Environs, 1207.
Speculative Business, The Volume of, 1228.
Speculative Contracts, Legality of, 1183.
Speculative Halls, The Oil City Exchange, 975.
Standard Oil Company's New Building, 1036.
Stocks Abroad, Tables of, 920, 946, 969, 997, 1020, 1046, 1062, 1098, 1122, 1160, 1179, 1215.
Stocks in Europe, 935.
Stocks in Foreign Ports. See Stocks Abroad.
Stocks, Monthly Report of. See Runs, Shipments and Stocks.
Stocks, The Pipe Line, 955.
Stocks, The Reduction in, 1185.
Stocks in Region Since 1870, (table), 947, 970, 998.
Story, A Sweet Oil, 905.

T.

Tennent, James C., (with Portrait), 1095.
Thorn Creek, Decline of, 1040.
Thorn Creek, Chronicles of—For January, 92 ; February, 940; March, 962; April, 989; May, 1021.
Thorn Creek, March Notes, 961.
April Notes, 992.
May Notes, 1015.
June Notes, 1039.
Thorn Creek, New Pipe Line at, 1010.
Torpedo Company of Delaware, The, 971.
Transport of Petroleum in Bulk, The, 1193.

U.

Use of Crude Petroleum in the Manufacture of Steel, 1090.

V.

Vancouver Island, Petroleum in, 1156.
Various Topics, Notes on, 984.
Vaseline in Pastry, 956.
Volume of Speculative Business, The, 1228.

W.

Wardwell Pipe Line Runs. See White Sand Pools.
Warren and Forest, January Notes, 915.
February Notes, 939.
March Notes, 960.
April Notes, 991.
May Notes, 1013.
June Notes, 1038.
July Notes, 1079.
August Notes, 1093.
September Notes, 1119.
October Notes, 1145.
November Notes, 1171.
December Notes, 1205.
Washington County Oil Operations, 996.
August Field Report, 1094.
September Notes, 1129.
October Notes, 1146.
November Field Report, 1170.
Map of Field, 1181.
Test Wells, 927.
Washington Oil Field, The, 12 9.
Wells Completed in 1885, 1208.
Weston, Milton, Final Sentence of, 1228.
West Virginia, The Volcano Field, 935.
Wheeler, Charles L., (with Portrait), 1184.
White Sand Pools, Production, The, (by years), 1213.
White Sand Pools, Production Tables of, 914, 937, 958, 976, 1009, 1035, 1077, 1108, 1130, 1142, 1166, 1203.
Wild-Cat Wells, Butler and Armstrong, 1040.
Working Barrels, Sauer's Improvement in, 1102.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., FEBRUARY, 1885. No. 1

A SWEET OIL STORY.

[CONTINUED.]

Three weeks had elapsed, upon the day of our introduction to Barney, since the celebration of the 103d annual renewal of American liberties at (it seemed to him) his individual expense. They had been weeks of fruitless search for the disappearing one who had flashed in a single dissolving view before his eyes. But if he had seen nothing of her, he had noticed uneasily that the regnant rodent of the Kightlinger farm occupied unharmed his dingy stump, and that the Commission no longer badgered him. There was something in the suspension of hostilities ominous of a more decided attempt at revenge, and, as before remarked, Barney McGalligan chewed the cud of bitter fancy as he saw the puffing clouds of steam that kept in time with the beam at No. 8.

A little longer, and its quickened motion showed that in professional parlance the well was "running away," when Barney shut off the steam and sallied out to start the next. After seeing everything in order, he found the steam-line leaked badly, and was obliged to go back for tongs to set up the union with. As he came in sight of the boiler house, which was at some distance down the hill, he saw two boys going in, evidence enough to show that his return was not previously expected. As swiftly as possible without alarming them, Barney ran to the open window and listened intently.

The boys were moving rapidly and talking in whispers, and he felt certain of taking them in the act of doing something for his comfort, when one of them exclaimed:

"Run, Jim, they're afire!"

The patter of their bare feet was lost in a series of violent explosions that followed, and Barney climbed through the window into a cloud of fragments from ten-inch crackers. In a minute or less he had captured "Jim," and after shutting off the steam and kicking out the burning pieces of paper, proceeded to inspect him.

He was a more or less carrotty-haired specimen of the district school genus of Boy. Keen-eyed, tough-skinned, always liable to retribution and appalled at the grasp of Nemesis, he was a living example of what Rubens might have depicted as a Captive Mercury. For there was a decidedly Niederlandish cast in the features of the unwinged Hermes shaking in ready-made clothing as if the great dykes of his ancestors were drifting to his feet.

The dialogue which followed was not of a nature to restore his drooping spirits, and terminated in the announcement of Barney's intention to take him home and see that he was well whipped.

"I ain't got any home," said Jim, "I'm just a staying down to Mr. Blake's, and they's nobody there but the gal and Miss Blake. They can't both of them lick me, and the old man's no business to. He's going to get licked himself before long."

Something in this last spirited remark seemed to inspire the juvenile, and with a rather brighter air he saw his captor prepare for their departure. Everything was securely locked, and under the silent guidance of the prisoner the two ascended the hill and entered the grateful shades of a still respectable forest. For a mile they climbed a winding path and stood at last upon the summit of the hills. The trail of a narrow gauge road crept to the glorious eminence and slunk away on the other side, ashamed of its own vermicular proportions. In the eastward lay the long, deep valley where Rixford, like a great swamp of wooden mushrooms, sat in the glory of her transient days. Here the ambitious operators, climbing as Barney and Jim had climbed, had looked on the sea of trees, limitless, silent, and hiding golden possibilities,

> "Like stout Cortez, when with eagle eyes
> He stared at the Pacific—and all his men
> Look'd at each other with a wild surmise,
> Silent, upon a peak in Darien."

At their feet the oceans lay, yellow floods of hidden oil, and old sea sands, crushed with the drift and alluvium of countless years. Derricks that began to blacken in the sun stood as monuments of human fortunes, splendid, or little, or mean; some that could tell of broken hearts, of chicaneries, of colossal lying, of everything but the creature of a later day—the Mystery Man. This they had been spared.

And as they stood panting in the crest of the way, it was Jim that spoke, pointing down the valley another mile.

"That's Mr. Blake's; but there's no use of your goin' down. He's gone."

He looked at Barney from the corner of his eyes, seeing rays of hope in the glistening beads that stood upon his face. The sun was high and its heat intense, the boy's story plausible, and a sudden remembrance of the troubled face that now-a-days he never forgot in quieter moments, made him almost dismiss his petty search for satisfaction in so comparatively insignificant a matter. It was hunting hares in time of war, and his parting words of admonition and dismissal were on the point of evolution, when a puff of smoke rose from the trees near the foot of the hill in the direction of the Blake farm, and slowly lifted in the air like the evil Genie from the fisherman's bottle, which indeed may have been filled with crude itself. The excitement of a fire turned the scale again, and Barney pushed forward on a brisk trot in spite of the heat. This gave Jim his desired chance, and in a moment more he lagged at a turn of the road and plunged into the woods. He need not have run so hard, if he had seen Barney's quiet recognition of his escape. An interview with the farmer was quite as likely to be effectual without Jim's simultaneous appearance, The latter's intention was to reach the house first, to hide if the farmer were there, and if not, to take the chances of war and stand his ground.

Barney soon reached the fire and saw the destruction of a well and a single tank of oil, and half unwillingly turned away to find the roof under which his late prisoner claimed shelter and sanctuary. Leaving the highway by an orchard path, he had come almost in full view of the jumbled collection of wings and Ls, lean-tos and sky-additions, which clustered around and above the old Blake tenement and showed that the owner had struck oil. Here he met Jim in a state of excitement that completely removed all remembrance of the little difficulty which had been so lately uppermost in his mind.

The trace of Neiderlandish phlegm had vanished from his face and the Mercury of Rubens had become such a swift messenger as the Dioscuri had delighted to honor in the shadow of Vesuvius.

"The old man's there," he began, continuing with sundry paroxysmal accompaniments, "and a minister and another feller, and the gal she's takin' on and says she never will and nobody won't help her. Mister, if you'll let a set of bull-wheels loose into that crowd you can bet your life they won't no boys bother you long as they hear me."

"What's the matter, anyway?" said Barney, forgetting his errand entirely.

"That's what I don't know, but they're been a pesterin' her since the slick chap come around, and I heard Mr. Blake tellin' of her she couldn't stay here any more and she better not make a fool of herself. And they's somethin' a goin' on now and the gal's bound to get the wust of it. You just come to the house and make b'lieve knock and I'll take you in the next room with only boards between and maybe you'll hear yourself. I tell you she's been takin' on dreadful, and it don't do her no good."

The thought of carrying relief to the "gal" gave such earnestness to his speech that Barney consented tacitly, moving toward a door designated by Jim. The formality of rapping was not observed, but both entered the house as quietly as befitted honest intentions. Barney took a chair at the left, and like a cat in a strange garret waited for anything that might happen.

In the adjoining room a confusion of scarcely audible voices reigned. There was a suspicion of darkness in the tone of the conversation. Then a moment of quiet, when the exit of one or two persons followed and the voices began again; first, one indescribably mean, and quivering under the high tension of evil purposes and cruel will:

"They ain't no use of settin' yourself up agin us after we've got this far. You're goin' to marry Mr. Merl, and that in less'n an hour. You said you would, and you got to do it. Hevn't we brought you up since your father died and left nothing but the good-for-nothing land on the creek that ain't paid more'n taxes ever since?"

It was the "gal" that answered:

"I can never marry him. I hate him, he is so bold and so coarse; there is nothing but meanness about him. Send him away and I will work for you like a slave, but I cannot be his wife, nor can I think of his having anything to do with the farm where my father died and is buried. Let them go, I will never marry him."

At first the only sound that followed was that of a chair moving towards the girl, and then the same voice as at first, but with still lower key and with crueller tension:

"Look'ee, Annie Phelps, we've gone too far to back out now. Me and Ma are goin' to see you marry Mr. Merl right along now, or we're goin' to put you in the road and give you a name that'll shut every door in your face. Haven't you been with him enough to make folks shake their heads, and will they b'lieve any yarn about

goin' agin your will? Not much they wont, and if you go out of this house alone, they ain't a decent person in the land to listen to the story of a girl that's been put out of the house where she's always been. What do you say?"

She had broken into sobs and hidden her face, so that her answer was not audible, but evidently the farmer—the first speaker—had carried his point, for he stepped to the other side of the room and spoke to two or three who entered at once. There was a general moving of furniture and interchange of conversation, and in the unintelligible murmur of voices Barney followed by intuition the progress of what he felt to be a sacrificial ceremony. It may have been that Jim had not as well understood the farmer's words, but the reply of the girl roused him into such a display of anger that Barney instinctively laid a hand upon his shoulder in the way of restraint.

Then the marriage ceremony began, not in the stately and sacred formulas of the Church, but in such words as suited an occasion when obtaining the consent of an unwilling party to the contract was the principal, and indeed the only, matter in consideration. That the officiating personage was a Justice of the Peace, and therefore not beyond the influence of temporal leanings, was evident in the words he spoke with heavy attempts at profundity and legal dignity.

"Whereas William Merl, the party of the first part, and Annie Phelps, the party of the second part, are about to join hands in holy matrimony, this is to require all and every person or persons who may have knowledge of cause by reason of which the aforesaid parties should not legally become one party of the first and second part, that they do presently speak or hereafter hold their peace."

A rattling of wheels grew plain as this dignified veneer was spread over the outrageous transaction which was about to be consummated, and as the Justice paused for breath, a carriage of some kind stopped in the highway.

"Wilt thou, William Merl, take Annie Phelps to be thy lawfully wedded wife," (steps coming rapidly towards the door) "to love, honor and cherish so long as you both shall live?"

The answer was bold and plain, half like a threat—

"I will,"

And while the shrinking girl shuddered at the living death that yawned before her, Barney McGalligan, in his greasy clothes, pushed away the rattle-trap of a door, hinges and all, and took a part in the business as party of the third part, followed by Jim and a man whose clothes, well spattered with sand-pumpings, bore also a liberal splashing of crude.

The sound of the voice that said "I will" had sent a thrill to Barney's heart, and the words of threatened vengeance that had been a coward's only answer to a blow rose in his mind like a flash. He knew the speaker, and the vision of the friendless girl hiding her beautiful face in shame and distress—well, it lifted him like a very solid feather through the door.

Annie stood hopeless and pale beside the same flashily dressed man, supported by the Godless individual called Farmer Blake. As the door came in and Barney stood before her, with an instant impulse to escape she sprang to his side.

For a moment no one spoke, then Barney, holding the half-fainting girl with one arm, raised his right hand and motioned towards the door.

"Go out, or I will drive you out; you are a coward, a villain and a sneak. I will take this woman's part against you all and tell the world what ways you have used to break her heart. If she has no friends it is not her fault, and if she looks to this man for a home she is poorer than any one else that lives!"

They stood like curs, the three, against Barney and Jim and the great, greasy, big-fisted driller, who interrupted Barney to say;

"There is a fifty barrel well on the old Phelps farm, and if the girl owns it, as she ought to do, she don't need to marry such a mean looking land-shark as that."

When the active Saurian misses the juvenile African by the fraction of an inch where the St. John oozes towards the coast, he contemplates the new emancipation with such an expression as during the speech of the driller had overspread the face of Mr. Merl. In entire harmony with the gentleman's feelings the abject meanness of the farmer's countenance baffles description. They hastily consulted with the Justice, whose fee seemed all but lost, and then the farmer spoke:

"You folks can git; you hain't no business here. It's nothin' for you to interfere with, and if the girl's promised to marry Merl, and that I'll swear to, the wedding's going ahead."

He placed his dirty, eager hand upon Annie's arm, and Barney saw that she not only shrunk from his touch but trembled with uncontrollable fear. It was his turn to speak:

"We will go, and we're willing enough," he said, "but for my part I have heard this old

bark-peeler threaten the girl if she refused to marry this man, say he would turn her into the road alone and make her name black with lies. Not long ago, at Sawyer City, one night"—here Annie looked at him with sudden surprise—"I saw this man put his arm around her and his hand over her mouth, when she tried to scream; I took the liberty of interfering and am ready to again. If the girl wants to get out of this den" (she had already recognized Barney as her former protector and still further claimed his aid by moving behind him and away from the others), "she can go now, it's no place here for her."

"If she'll take up with my accommodations," the driller said, when Barney paused, "my wife will be glad to have her come. She hasn't forgot the time our little girl was sick at school, and Annie Phelps carried her all the way home. And if she wants to go anywhere else, here's a horse and carriage ready. If she stays here, she's good as lost, with such hyenas prowling around. I've been looking out for this, these couple of months, and when we shot the well on the Phelps this morning early, this Mr. Merl, as he calls himself, set on the fence and sized it up. He wasn't working for nothing, and he hasn't been hanging 'round the well ever since we drove the stake just for amusement. And when it was sure for something good, why, I just thought I'd come over and see what kind of a hand Mr. Merl had dealt himself. We want a new deal, and I guess we'll change the pack."

When he had just begun Annie had disappeared and a moment later returned with a small satchel, a shawl and hat, and with such a recovery from her recent fright that Barney was fairly electrified by the charming air of thankfulness with which she addressed him in acknowledgment of his interest and kindness to a perfect stranger.

The last words went cuttingly to Barney's heart, and noticing it as she did, there was nothing more natural than to give him the privilege of continuing a chance acquaintance.

There was more or less animated conversation before the three left the house, followed by Jim, who remarked:

"It's no use my stayin' there no longer; the old man'll skin me alive."

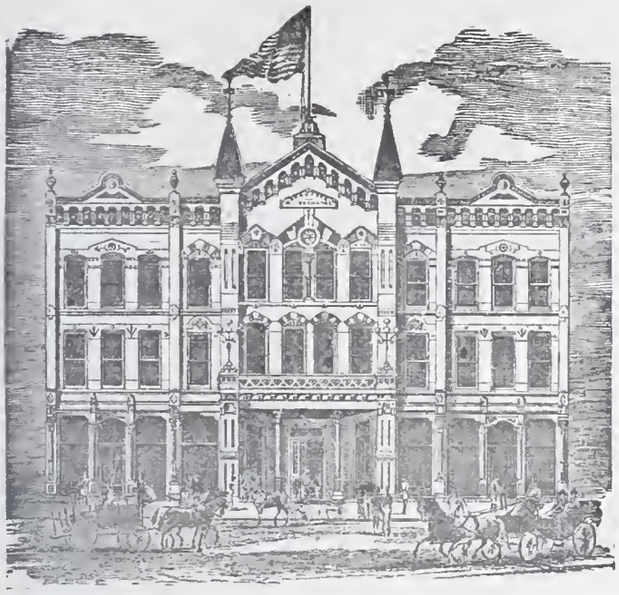
"You come with me," said Barney, who recalled the sympathy of the boy for the farmer's ward, "maybe there'll be a chance for you down the creek."

The stars were blinking when the two said good-night to Annie and the driller's family at the Summit, and climbed a little higher till they stood where Barney had almost turned upon his steps. If he had—his courage failed him at the thought—Annie Phelps would have been the victim of one he instinctively knew for a villain, and the dull routine of a pumper's life would have healed the scar on his heart.

Many times there have been fairer days than that for Barney, for his sweetheart, for Jim; a few dark ones there were when it seemed as if the title to the old Phelps farm might be wrested from its rightful owner by the machinations of the Farmer, the Justice and the Land-Shark; then a time of peace—a day when the old lease knew Barney no more, and Jim wandered delighted among the remnants of a wedding-feast. What time the axe of the rig builder ceased to ring in the drowsy forests, when the twinkling gas flames faintly showed on the rugged hills, Barney stood with his wife on the platform of a car as the train stopped at a little place on the Olean road, looking out over miles of pleasant lands and far-off crests of Cattaragus hills. Nevermore have they shared in the joys and sorrows of old McKean, but in a quiet home look back with faithful affection to its stirring days. They see no longer a people whose mercurial spirits glow or darken with the fitfulness of a storm-blown flame: who wear the dancer's robes in the groping of sudden darkness, burn or shiver with alternate blasts, waiting for the Moses who may lead them by the cloud of smoke within the Promised Land. If they listen, these far-off happy ones, they may hear through the music of little voices the lament of those they left behind:

"Oh, then we awoke with a sudden start
From our deep dream; we knew, too late,
How bare the rock, how desolate,
To which we had flung our precious freight;
Yet we cried out, "Depart!
Our gifts, once given, must here abide:
Our work is done; we have no heart
To mar our work, though vain," we cried.

The Oil Well Supply Company, Limited has recently published an illustrated catalogue of the machinery, tools and supplies used in drilling and operating artesian wells for oil or water, or to test land for coal or other minerals. It contains 160 pages and is the most complete publication of the kind ever issued. Every part of a drilling well is minutely described from the rope socket to the crown pulley. The firm makes everything described in the book, and will furnish men, machinery and outfits to go to any part of the world.



THE BRADFORD OIL EXCHANGE.

In this number of the AGE we present a cut of the Bradford Oil Exchange and publish a list of the 271 members as it stood corrected up to February 1st, 1885. This exchange is one of the fixed institutions in the group devoted to oil speculation and its prosperity has been commensurate with the magnitude of the great oil field which gives it a name. In its membership are included a number of gentlemen who have had much to do with the tides of speculation and who to-day are among the heaviest operators in the oil region. The Bradford Exchange is conspicuous for its large speculators, while Oil City is noted for its great brokers.

Mr. C. L. Wheeler, its first and only President, fills the office so acceptably and with such fidelity that he continues its chief executive officer from year to year. At the last election he was unanimously chosen President for the seventh time. He is President of the Conference of Oil Exchanges, as well as of the different organizations with which he is connected. Mr. L. E. Fuller, the courteous and obliging Secretary of the Exchange, starts this year on his third term of office.

HISTORICAL AND DESCRIPTIVE.

The rush of operators from what has been not inappropriately termed the "Lower Country," began, properly speaking, in September, 1877, and continued with increasing vigor during the ensuing two years. Naturally enough the entrance of this element into what had hitherto been regarded as a peaceful country village, brought with it another innovating ingredient—the speculator. The oil trade of the Bradford district, during the year named, had assumed splendid proportions, and the location, with its surroundings, was thought to be a peculiarly eligible point for establishing a Board of Exchange. Several gentlemen had already moved hither with the intention of speculating in the greasy product and from them the idea met with ready favor. In Oil City a magnificent structure was looming up its beautiful proportions, and this fact naturally increased the desire for a building of a similar character in this, the leading oil metropolis of the world.

Cherishing this most laudable purpose a movement was inaugurated by several well known gentlemen possessing not only ample capital, but remarkable vim and keen business sagacity. The discussion of the subject first assumed definite form on the 19th day of March, 1878, upon which day a meeting was held, attended by about one hundred men of the region round about. At this meeting the idea was detailed by Mr. C. L. Wheeler, who was named as chairman. A. J. Stephenson was chosen secretary and five trustees, J. M. Fuller, Lewis Emery, Jr., C. L. Wheeler, Geo. H. Van Vleck and Fred. E. Boden were also appointed and authorized to take the initiatory steps toward the erection of a building. It is but justice here to state in this connection that to C. L. Wheeler, more than to any other single individual, perhaps, is due a large share of the credit for the inception and successful accomplishment of the work. To Augustus J. Stephenson's strict attention to the duties of his department; to Mr. A. F. Kent, treasurer, for his excellent financial management, and to the executive committee separately and combined, also should be awarded a generous share of the praise bestowed upon those who contributed so greatly to this grand success. It now stands as a splendid monument to their taste and judgment in all particulars.

Stock to the amount of thirty thousand dollars was subscribed in short order, and enough of this amount was paid in from time to time to keep a fund constantly on hand as the good work proceeded. From a number of excellent plans submitted to the board on the 4th of May, that of Mr. E. A. Curtis, of Fredonia, N. Y., was chosen, as combining the greatest number of characteristics desired by the board, and deemed on many accounts the best of those offered. The site of the old Johnson homestead on Main street at the head of Congress, was selected as the most convenient location, and the sum of $10,000 was paid to Mr. A. K. Johnson for the ground. The contract for build-

ing the edifice was awarded to Henry Shenk, of Erie, Pa., and so efficiently was the object of the committee pursued that on the 13th of June, two months and twenty-four days from the time of the inception of the enterprise, ground was broken for the foundation and there was no abatement in the work until its final completion in February, 1879.

DESCRIPTION OF THE BUILDING.

The original contract price of the building was $28,000. To this may be added the cost of the ground, $10,000, and the amount paid for interior decorations and embellishment, $6,000, making the grand total of $44,000. In dimensions the building is 81 feet 6 inches in width along Main street, and extends 151 feet to the rear measuring on the brick walls. Extending back it is divided into two sections, the front or main structure being 81 feet six inches, by 75 feet, and the rear 76 by 76 feet.

Taking a view of the edifice from Congress street, its many architectural beauties develope strikingly to the eye of the beholder. The three-story front is of pressed brick and the large windows are capped with Ohio sand-stone and Marquette brown-stone, the arrangement of the two varieties of stone lending a rich effect to the otherwise handsome external appearance. On the first floor are four commodious store-rooms, each lighted in front with great windows of heavy plate glass.

The assembly room is situated in the rear or north end of the Exchange building proper, and is one of the finest in the country. In size this portion of the building is 76 by 106 feet, including ante-rooms. The main room where the brokers meet is 50 feet in width, by 106 in length. The ceiling is over 30 feet in height, and both the walls and arched ceiling are elaborately decorated in frescoing of artistic colors and elegant design. The light by day finds its way through numerous windows of plate and one of stained glass, and at night two huge Siemens burners flood the room with a soft mellow light. The room is well ventilated and its acoustic properties are of a superior character.

The following is an extract from President Wheeler's report for 1883:

"*To the Stockholders of Bradford Oil Exchange:*

GENTLEMEN:—The year 1883 has been one of remarkable prosperity for the Bradford Oil Exchange. During the year the Exchange has been enlarged by an addition to the main building of thirty by eighty feet, thus providing for the growing active membership and rapidly increasing business. Additional space has been given to the telegraph companies, enabling them to furnish the required facilities for the prompt transmission of orders. A suitable office connecting with the floor of the assembly room, with large fire-proof vault, has been erected for the accommodation of the Clearing House. Fifty opera chairs have been placed in the assembly room, in a favorable position for sight and sound to be occupied at the pleasure of the members, by their friends and visitors. A gallery, with an entrance from Main street, has been constructed for the free use of the public, so located as to command a full view of the ring, and making communication easy between brokers and customers. The interior of the assembly room and parlors has been re-decorated and frescoed in the highest style of the art. Additional land has been purchased, increasing the light and air, while it gives additional protection against fire.

The additions and improvements during the year have cost $11,543. Your Board of Directors feel confident that they have provided ample facilities for the convenient transaction of your large business, and added materially to the comfort of the members."

The total clearances of the Exchange for 1883 were 1,468,506,000, and for 1884, 1,640,458,000 barrels.

The following is a list of the officers for the present year and of the members on the first of February, 1885:

OFFICERS.

President, Charles L. Wheeler; Vice-President, Charles P. Stevenson; Treasurer, Winfield Scott; Secretary, Lucius E. Fuller.

Directors—William H. Powers, Harry A. Marlin, Asher B. Walker, J. Milton Fuller, Judson E. Haskell, William P. Thompson, Asa K. Darrow, James E. Cochran, Hezekiah P. Malone, Charles M. Dodge.

Arbitration Committee—Henry S. Davis, Eugene P. Whitcomb, Isaac G. Jackson, John A. Johnson, Barney Forst.

Conference Committee—Charles L. Wheeler, Joseph Seep, Hamlin L. Blackmarr.

Judge of Electioh—Frank A. Dailey.

Inspectors of Election—William E. Boylston, John L. Tracy.

Floor Committee—C. R. Huntley, J. H. Conant, H. S. Tucker.

Auditing Committee—F. A. Dailey, J. L. Tracy, E. N. Hallock.

Finance Committee—J. E. Haskell, J. E. Cochran, W. H. Powers.

Building Committee—H. A. Marlin, W. P. Thompson, A. K. Darrow.

Manager of the Clearing House—E. A. Flannigan.

MEMBERS.

Atkinson, F P
Amm, James
Alexander, G W
Ames, C H
Angell, C D
Armstrong, J M
Amm, Samuel N
Albertson, J B
Boden, F E
Blackmarr, H L
Broder, James
Brooks, D P
Brown, John
Bradley, Thos
Barnum, E H
Bradley, W H
Bennett, A P
Brady, E H
Brown, A
Fertig, F
Forst, B
Germer, Otto
Gray, W G
Goe, H B
Gilmore, A. jr
Gifford, Frank
Goe, Bateman
Groves, S A
Gormley, J C
Hequembourg, C E
Haskell, J E
Hamsher, L E
Haldeman, W P
Handel, Frances
Hazzard, R T
Howe, Geo C
Huff, H B
Howes, E T
Powers, W H
Patterson, J S
Powers, T J
Peck, Seymour
Roth, P W
Rolfe, E W
Roberts, G L
Roberts, F H
Rich, I
Reid, S M
Ralston, D A
Rhodes, S C
Richards, A
Rose, R H
Slike, S G
Stevenson, C P
Smith, A D
Stevens, F I
Stewart, D B

Boyne, E A
Book, C K
Book, W P
Brown, W W
Byrom, Henry
Bayne, S G
Best, L H
Borckman, R F
Bradley, E C
Brenneman, L A
Boylston, E J
Bell, W W
Bolard, J N
Boylston, W E
Brooks, G H
Babcock, D D
Brooks, H C
Blomer, A H
Bullock, W E
Blackwell, G F
Barger, L F
Barnsdall, T N
Beatty, H B
Bailey, R G
Chambers, Geo
Clarke, C S
Clements, John
Church, Richard
Collins, N R
Chapin, W H D
Carter, J J
Clapp, J M
Chambers, Wm
Chambers, E E
Clarke, J A
Colton, O H
Cochran, John
Cramer, C H
Coffin, S G
Conant, J H.
* Duke, Jos
Dow, Warren
Davis, H S
Davis, F W
Drake, J B
Dow, Rollin
Dodge, C M
Dailey, F A
Darrow, A K
Durston, S H
Denman, John
Dow, C M
Decker, H R
De Wolf, H
Dixon, J H
Evans, W G
Emery, L jr
Eaton, John
Ege, J A
Evans, J H
Eccles, W C
Fuller, J M
Farrel, J B
Filkins, C H
Fink, J J B
Frisbee, F H
Fithian, W H H
Foley, C
Fritz, H J
Fuller, L E
Frisbee, J C
Ford, H W

Hitchcock, A
Hanna, D
Huntley, C R
Hochstetter, A
Hallock, E N
Howard, W H
Hammond, H J
Holman, C J
Herz, G
Howell, E C
Johnson, F S
Johnson, E T
Jones, J T
Jones, C E
Jennings, E H
Johnson, J A
Jayne, J B
Johnson, W H
Janes, H
Jackson, I G
Kent, A F
Kennedy, P T
Kennedy, W C
Klapp, H E
Kennedy, C H
Kronenberg, L
Kahn, I
Kelleher, F M
Ladd, Theo
Long, Robert
Logan, W P
Lane, R T
Levi, E
Lavens, C H
Leonard, F P
Longwell, D W
Lowe, G T
Luce, E W
Marlin, H A
Martin, M R
Melvin, C C
Munhall, Wm
Melvin, T J
Malone, H P
Matson, M
Murray, A K
Murphy, M
Mallory, L E
McKelvey, R W
McLaughlin, T A
McNish, W C
McLeish, W C
McElroy, J M
McCray, T E
McCray, J W
McBride, W D
McKinney, J C
McMullen, G W
Newell, Chas
Newell, A W
Newell, A T
Newton, J L
Noble. Orange
O'Day, Daniel
Potts, John
Preston, N D
Parsons, C E
Pullman, W A
Payne, C N
Pratt, C W
Pemberton, H J

Shearman, R C
Shearman, H C
Scott, Wm H
Smith, Josiah G
Solomon, S
Seep, Jos
Shirley, I W
Schonblom. O F
Smith, L H
Saulnier, K
Schlesinger, J
Saunders, D M
Shear, M
Smith, A B
Stettheimer, J
Simonds, J H
Suhr, L
Steele, J B
Scott, W
Shaw, L R
Shaw, M
Shannon, P M
Samuels, Chas
Smith, G C
Spain, W H
Smith, B F
Snow, J H
Smith, J S
Scott, G C
Smith, J W
Thayer, R H
Tew, H W
Thompson, A J
Thompson, T P
Thayer, D J
Thompson, C K
Thomas, D P
Thompson, W P
Tucker, H S
Townsend, R E
Tracy, J L
Tracy, Jno S
Tucker, C E
Thornton, A
Van Vleck, Geo H
Van Schaick, W F
Vandergrift, T J
Varney, Jeff
Wheeler, C L
Whitcomb, E P
Wheeler, S A
Whitney, C S
Willoughby, A
Weaver, W R
Webster, P L
Whitehead, C B
Willetts, E F
Walker, A B
Walters, H M
Wing, W O
White, W W
Wellman, A J
Wall, M
Wilson, J F
Williams, J T
Watkins, A J
Wintermute, Jas
Yelton, W L
Zane, J P
Zielie, W B
Zook, J F

* *Deceased.*

THE MACKSBURG FIELD.

The event of interest in the history of the Macksburg field during January was the sale of the local pipe lines to the National Transit Company. By this transfer the premium on Macksburg oil is removed and it is now sold at Exchange prices. A reduction of thirty cents per barrel in the price of crude in the Ohio field is likely to retard the progress of the drill, and operators there will keep time with those in the Pennsylvania region.

Thirteen wells were completed in the field during January, having a new production on the last day of the month of 318 barrels. On the last day of the month there were 22 rigs up and building and 28 wells drilling. The National Transit Company are enlarging their storage capacity in the district by the building of additional iron tanks. The following is a list of wells completed in January with rigs up and building and wells drilling January 1st:

Farm.	*Operator.*	*Barrels.*
Rice, George	Rice No 5	25
Agler, W E	Decker & Son's No 1	25
B F Atkinson,	Stevens & Longfellow No 2	30
Perkins, J C	Lineman No 2	75
Devall, J H	Bradley No 2	15
Clinedinst, J	D Wolf No 1	15
Buton, Clark &	Spellacy No 1	12
Coal lands, Ohio	Oil Co No 4	30
Gordon, Syndicate	Oil Co No 1	8
Merrow,	do No 2	15
W Atkinson, D W	Clark & Co No 3	20
DeLong, Macksburg	Oil Co No 4	18
Perkins, C J	Garvey No 4	30
Wells		13
Production		318

RIGS UP AND BUILDING—WELLS DRILLING.

Farm,	*Operator.*	*Barrels.*
Smithson,	Macksburg Oil Co No 2	800
do	do No 3	rig
Dutton, M B	McManus No 2	900
W Atkinson, D W	Clark & Co No 2	1050
Davis, Porter &	Gillmor No 1	1000
Coal Lands, Ohio	Oil Co	2 rigs
do	do No 5	1500
Kathary, Kathary &	Co	drllg
C Agler, W E	Decker & Sons No 1	200
do	Garvey & Co No 2	500
Dyer, Boden &	Aiken No 1	450
do	do No 2	950
do	do No 3	900
do	do No 3	1050
do	do No 7	1200
B F Atkinson,	Stevens & Longfellow No 3	600
Rice, Geo	Rice No 5	1400
do	Geo Rice	2 rigs bldg
Perkins,	do	rig
Jersey, Borckman &	Laney Bros No 8	1600
do	do No 9	500
Perkins, C J	Garvey No 4	800
do	do No 5	450
Stevens, Lineman &	McKevett No 3	1100
do	do No 4	rig
Shilling, Laing &	Denman No 1	600
Devall, S H	Bradley & Co No 3	600
Williams, Union	Oil Co No 1	1100
do	do No 2	1000
do	do	4 rigs
L Shilling, C N	Payne No 2	800
Morris, Mills &	Austin No 1	300
McLouth, Bradley	Oil Co No 1	450
do	do	rig bldg
G Shilling, John	Denman	rig
Patton, Mills &	Mullin	rig
G Stevens, Mills &	Mullin	rig
McGinnis, Union	Oil Co	rig
Coal Lands, Lee &	Apple	3 rigs
Perkins, J C	Lineman	2 rigs
B Atkinson, Stevens &	Longfellow	rig
Phipps, Bradley	Oil Co	drllg
Rigs		22
Drilling		28
Total		50

PETROLEUM EXPORTS.

THE exports of refined, crude and naphtha, from all United States ports from Jan. 1 to Jan. 31, for the years 1884, 1885, were as follows:

	1885. Gallons.	1884. Gallons.
From Boston	220,386	488,016
Philadelphia	3,944,930	4,938,652
Baltimore	439,955	436,069
Richmond	. . . . .	. . . . .
Total	4,605,271	5,862,737
From New York	28,078,174	28,647,744
Total exports from United States	32,683,445	34,510,481

The appended table from the *Shipping List* gives the total exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1st to February 4th, for the years of 1884 and 1885:

REFINED.

	1885.	1884.
GREAT BRITAIN.—London	1,434,458	1,808,704
Liverpool	719,354	....
Bristol	522,775	390,780
Ireland	359,833	752,849
Other ports	1,809,411	557,250
GERMANY—Bremen	908,074	2,908,286
Hamburg	992,469	1,734,883
Konigsburg and Stettin	140,667	....
Dantzic	....	....
Other Ports	....	....
FRANCE—Marseilles	....	....
Havre	....	....
Norway and Sweden	....	209,273
Russia	....	....
Denmark	207,416	83,844
Belgium	1,694,816	4,054,317
Holland	2,193,762	3,701,311
Spain	....	30,000
Portugal	163,484	45,000
Gibraltar and Malta	....	1,286,200
Italy	....	452,020
AUSTRIA.—Trieste, etc	....	449,998
Greece	....	....
Turkey in Europe	492,820	....
Turkey in Asia	153,000	159,410
India	2,986,320	588,680
China, Japan, etc	3,924,510	630,000
East Indies	1,201,000	577,000
AFRICA.—Alexandria, etc. E	185,390	131,450
Canary Islands	....	....
Other Ports	94,360	193,002
Australia	419,730	283,153
New Zealand	217,932	119,520
Sandwich Islands	....	125,100
SOUTH AMERICA.—Brazil	733,926	364,188
Argentine Confederation	86,000	456,040
Chili and Peru	74,000	58,250
U. S. Columbia	42,635	58,002
Venezuela	37,341	56,306
Other Ports	4,010	10,800
Central America	21,023	15,087
Mexico	125,656	89,114
British North American Colonies	108,851	74,231
Cuba	67,923	41,540
British West Indies and Br. Guiana	203,882	127,177
Other West Indies	127,962	116,783
Total . . . . . Galls.	22,454,790	22,739,548

CRUDE.

	1885.	1884.
FRANCE.—Havre	1,468,967	680,439
Marseilles	....	572,149
Bordeaux	571,024	60,390
Dunkirk	274,713	392,638
Other Ports	1,061,342	884,212
Antwerp	....	....
Bremen	....	....
Norway and Sweden	....	....
Spain	1,271,882	728,074
Cuba	183,324	492,361
Other Ports	....	1,634,246
Total . . . . . Galls.	4,831,252	5,444,509

NAPHTHA.

	1885.	1884.
Great Britain	149,258	351,946
France	270,000	104,491
Germany	201,145	....
Other Europe	170,241	....
Various Ports	1,488	7,250
Total . . . . . Galls.	792,132	463,687

RESIDUUM.

	1885.	1884.
To all Ports	305,000	....

	GALLONS.
Total Refined since January 1, actual shipments	26,250,324
do do do do crude equivalent	35,000,432
do Crude do do actual shipments	4,988,806
Grand Total Crude and Crude equivalent . . . . galls.	39,989,238
Same time, 1884	39,552,514

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, February 4th, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude.	Naph.	Res.	Total.
New York	20	37	14	0	0	71
Philadelphia	9	10	4	2	0	25
Baltimore	3	0	0	0	2	5
Boston	0	1	0	0	0	1
Total Feb. 4	32	48	18	2	2	102
Total Jan. 7	25	36	17	5	3	86
Difference	7	12	1	3	1	16

RUNS, SHIPMENTS AND STOCKS.

RUNS OR RECEIPTS.

PIPE LINE.	JANUARY, 1885.	DECEMBER. 1884.
National Transit Co	1,451,864.14	1,689,152.32
Tidewater	190,950.11	211,458.52
Octave Oil Co	2,326.17	3,047.06
Charley Run	....	.....
Shaffer Run	....	.....
Franklin (limited)	5,130.20	7,904.32
Cranberry Pipe Line	1.714.04	2,478.94
Total	1,651,984.66	1,914,042.16
Daily average	53,289.83	61,743.29

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	JANUARY, 1885.	DECEMBER, 1884.
National Transit Co	1,618,712.16	2,160,764.60
Tidewater	172,106.31	208,981.48
Octave Oil Co	1,783.64	3,661.88
Charley Run	.....	.....
Shaffer Run	.....	.....
Franklin (limited)	8,083.59	5,693.70
Cranberry Pipe Line	2,997.80	1,993.35
Total	1,803,683.50	2,381,037.01
Daily average shipments	58,183.34	76,807.65

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532.22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020.89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily exeess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23
Daily excess of runs over shipments, December	6,395.92
Daily excess of shipments over runs, November	3,548.49
Daily excess of shipments over runs, October	3,972.41
Daily excess of shipments over runs, September	11,372.77
Daily excess of runs over shipments August	1,571.67
Daily excess of runs over shipments, July	12,905.31
Daily excess of runs over shipments, June	12,183.86

NET STOCKS.

PIPE LINE.	JANUARY 31, 1885.	DECEMBER, 31, 1884.
National Transit Co	35,071,579.19	35,227,568.84
Tidewater	1,504,885.58	1,517,505.89
Octave Oil Co	5,144.84	6,083.88
Charley Run	3,717.00	3,717.00
Sbaffer Run	30,636.32	30,636.32
Franklin (limited)	20,594.79	23,548.18
Cranberry Pipe Line	24,454.16	25,737.92
United Pipe Line	32,100.26	38,094.38
Total	36,693,112.14	36,872,892.41

Stocks decreased January, 1885	179,780.27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552.87
Stocks decreased Oclober, 1884	616,976.88
Stocks decreased September, 1884	345,281.52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.10
Stocks increased June, 1884	190,320.23
Stocks increased May, 1884	322,981.75
Stocks increased April, 1884	1,945,919.83
Stocks increased March, 1884	164,711.33
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56
Stocks increased, December, 1883	220,328.28
Stocks Decreased November	121,800.43
Stocks Decreased October	135,681.61
Stocks Decreased September	350,167.79
Stocks Decreased August	269,053.22
Stocks Increased July	386,004.51

	RECEIPTS.	DELIVERIES.
Daily Average January, 1885	53,290	58,183
Daily Average December	61,743	76,808
Daily Average November 1884	61,751	69,264
Daily Average October, 1884	63,064	80,966
Daily Average September, 1884	65,952	76,391
Daily Average August, 1884	66,996	64,402
Daily Average July, 1884	66,702	56,170
Daily Average June, 1884	67,350	60,907
Daily Average May, 1884	66,688	56,448
Daily Average April, 1884	65,794	54,773
Daily Average March, 1884	64,590	60,445
Daily Average February, 1884	64,573	59,420
Daily Average January, 1884	58,178	54,404
Daily Average December, 1883	62,830	56,434
Daily Average November	65,281	68,829
Daily Average October	67,649	71,621
Daily Average September	66,210	77,582
Daily Average August	68,877	67,306
Daily Average July	65,628	52,722
Daily Average June	70,443	58,259
Daily Average May	69,445	61,411
Daily Average April	69,207	63,612
Daily Average March	64,404	52,737
Daily Average February	65,208	44,352
Daily Average January	65,125	43 813

THE REFINED MARKET.

The refined market presents few interesting features for January. Opening at 7¾ to 7⅞ cents for 70° Abel test it gradually weakened off to 7⅜ and 7¼ cents. Europe was a slow buyer, even at these figures, and took no more oil than was sufficient to satisfy the most urgent demands.

Refined in cases has been in good demand, with a healthy business at 8¾ cents. The Orient is constantly increasing its inquiries after this article of export. Mr. Geo. H. Lincoln's monthly circular shows the following clearances for January of refined petroleum, and compares the same with the figures of a year ago:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai	143,750	63,000
Hong Kong	111,489	. . .
JAPAN.—Yokohoma	137,212	. . .
INDIA.—Calcutta	212,532	100,578
Bombay	121,582	. . .
JAVA.—Batavia	. . . .	37,200
Angier	120,100	20,500
MANILA.—Padang, etc	32,500	. . .
Total	879,165	221,278

The home trade in refined is active at 8½ to 9 cents for ordinary brands. New York State test is held at 9½. Naphtha remains unchanged at 7½ cents.

		New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwerp.
		Cts.	Cts.	Cts.	Pence.	Marks.	Francs
T	1	7⅞	7¾	7¾	7⅛	7 20	18½
F	2	7⅞	7¾	7¾	7⅛	7 25	18½
S	3	7⅞	7¾	7¾	7⅛	7 25	18½
M	5	7⅞	7¾	7¾	7⅛	7 25	18½
T	6	7⅞	7¾	7¾	7⅛	7 25	18½
W	7	7⅞	7¾	7¾	6¾	7 20	18⅛
T	8	7⅞	7¾	7¾	6¾	7 15	18⅛
F	9	7⅞	7¾	7¾	6¾	7 20	18⅛
S	10	7¾	7⅞	7⅞	6⅝	7 20	18⅛
M	12	7¾	7½	7½	6⅝	7 10	17⅞
T	13	7½	7½	7½	6⅞	7 00	18
W	14	7½	7½	7½	6⅞	7 00	18⅛
T	15	7½	7⅜	7⅜	6⅞	7 00	18
F	16	7⅜	7⅜	7⅜	6⅞	6 90	18
S	17	7½	7⅜	7⅜	6⅞	6 95	17⅞
M	19	7½	7⅜	7⅜	6⅞	6 95	17⅞
T	20	7½	7⅜	7⅜	6⅞	7 00	17⅞
W	21	7½	7¼	7⅜	6¾	6 95	18
T	22	7½	7¼	7⅜	6⅝	6 95	17⅞
F	23	7⅜	7¼	7⅜	6⅝	6 95	17⅞
S	24	7⅜	7¼	7⅜	6¾	6 95	18
M	26	7½	7¼	7⅜	6⅝	6 95	17⅞
T	27	7½	7¼	7⅜	6⅝	7 00	18
W	28	7½	7¼	7⅜	6⅝	6 90	17¾
T	29	7½	7¼	7⅜	6⅝	6 85	17¾
F	30	7½	7¼	7⅜	6⅝	6 85	17¾
S	31	7½	7¼	7⅜	6¾	6 80	17¾

THE AVERAGE PRICE OF CRUDE.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

	1879	1880	1881	1882	1883	1884	1885
January	. .	110 1-5	95	83	92¾	111⅓	70¾
February	. .	103¼	89¼	85¼	101	104⅜	
March	86	89	82⅞	80⅞	97½	100⅜	
April	78⅜	76⅝	84⅛	78¼	92⅝	94	
May	73½	80¼	81½	70	99⅜	85½	
June	68⅜	100¼	81	54½	117¼	68¾	
July	69⅞	101¼	76½	57⅝	108	63½	
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92¼	71⅓	112½	78	
October	88⅛	96¾	92¾	93⅝	111⅛	71	
November	105⅜	91¼	82½	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

CRUDE MARKET FOR JANUARY.

The first month of the new year was a very quiet one for the petroleum trade. The fluctuations from day to day were very small and within narrow limits. The public seem to have grown tired of the petroleum certificate as an investment and the major part of the regular trade were inclined to see profits only on the short side of the market. The uniform regularity in the carrying rates encouraged the bears and discouraged the bulls. Under these circumstances few hope for a higher range of values, while nearly all seem to think there are still lower depths to be sounded before a reaction can take place. But it must not be lost sight of that the actual daily output of crude is lower than it has been at any time in the past five years, while the demand shows no material change. The market, too, is miraculously saved from going all to pieces, every time that such an event seems unavoidable, by the intervention of a strong buying element that appears just at the proper moment. The Gantz well in Washington county, the failures of Oliver Bros. & Phillips at Pittsburg, and of John J. Cisco & Son in New York, were used in turn to bring about a panic in oil, but proved only of minor importance as an influence on values.

The opening price for the month was from 74½ to 74¾ cents. The highest price, 75⅞, was reached at Bradford on the first business day. The lowest price, 68 cents, was touched on the 16th. The entire range of prices was about 7⅞ cents as compared with 13 cents in December and November.

The average price for the month on the floor of the Bradford Exchange was 70⅘ cents as compared with 74⅜ cents in December and 72½ cents in November. The average price for January one year ago $1.11⅓.

THE CLEARANCES.

	January. Barrels.	December. Barrels.
Bradford Oil Exchange	79,840,000	118,074,000
Oil City	99,202,000	151,418,000
New York, N. Y. Pet	103,838,000	119,186,000
New York, National	167,467,000	213,215,000
Pittsburgh Petroleum (new)	46,540,000	74,348,000
Total	496,887,000	667,241,000

THE proposed consolidation of the New York Petroleum Exchange with the Produce Exchange has come to naught. Negotiations are still open, that look forward to the union of the Petroleum and Mining exchanges. The Petroleum exchange is discussing plans to erect a suitable building on lower Broadway. In the meanwhile, the Stock exchange is carrying on a war against both the oil exchanges for their audacity in listing and proposing to list railroad stocks and bonds, with oil certificates.

WHITE SAND POOLS.

Cherry Grove, Cooper and Balltown Pipe Line Runs to February 1st, 1885.

1882.	Ch'y Gr've.	Cooper.	Balltown.	Total.	Daily Av'ge
	Bbls.	Bbls.	Bbls.	Bbls.	Bbls.
May	6,765	....	....	6,765	218
June	91,102	....	....	91,102	3,037
July	268,294	....	....	268,294	8,655
August	753,752	....	....	753,752	24,315
September	690,072	....	....	690,072	23,002
October	290,246	3,712	....	293,958	9,483
November	146,587	8,810	....	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	163,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114,233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87,193	261,784	8,445
April	31,191	126,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	89,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67,883	151,913	4,900
September	19,590	64,648	63,453	147,691	4,923
October	13,824	56,151	55,211	125,186	4,038
November	12,689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
Total Feb. 1, '85	3,377,012	2,167,906	1,611,573	7,156,491	7,107

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to Feb. 1st, 1885. Cherry Grove has produced 3,377,012 barrels, Cooper 2,167,906 and Balltown 1,611,573 barrels. The daily average runs from the three fields during January were 2,384 barrels, a decrease of 457 barrels from the December figures. The daily average runs from the Cooper and Henry's Mills sections for January were 1,214 barrels, for December, 1,246 and for November 1,302 barrels.

The Balltown field has a daily average of 810 for January, against 1,189 in December. Cherry Grove averaged 360 barrels during January, 407 in December and 423 in November.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are enumerated in the list. The pipe line runs from these sections since April 1st, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average.
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1.015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977

SUMMARY of the statement of the Tidewater Pipe Co., Limited, for January, 1885.

		Barrels.
Quantity of crude petroleum in custody at beginning of January		1,517,505.89
Quantity of crude petroleum at close of Jan.	1,580,717.40	
Less sediment and surplus	75,831.82	
		1,504,885.58
Receipts during January		190,950.11
Deliveries during January—to refiners	172,106.31	
" " " to other parties	26,114,85	
		198,221.16
Outstanding certificates, accepted orders, etc		854,000.00
Credit balances		650,885.58
Total liabilities January 31, 1885		1,504,885.58

DECEMBER SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of December		1,518,461.18
Quantity of crude petroleum at close of Dec.	1,589,838.90	
Less sediment and surplus	72,333.01	
		1,517,505.89
Receipts during December		211,458.52
Deliveries during December—to refiners	208,981.48	
" " "—to other parties		
		208,981.48
Outstanding certificates, accepted orders, etc		847,000.00
Credit balances		670,525.89
Total liabilities December 31, 1884		1,517,505.89

SUMMARY of the statement by the United Pipe Lines February 10, 1885:

Outstanding acceptances and certificates January 31	13,546,96
Credit balances	18,553.30
Total l abilities January 31	32,100.26
Gross stocks	32,100.26
Sediment and surplus	....
Receipts from all sources	....
Total deliveries	5,994.12

DECEMBER SUMMARY.

Acceptances and certificates, December 31	13,546.96
Credit Balances	24,547.42
Total liabilities December 31	38,094.38
Gross stocks	38,094.38
Sediment and surplus	....
Receipts from all sources	....
Total Deliveries	676.43

SUMMARY of the statements of the National Transit Co., for January, 1885, and December, 1884:

	January.	December.
Receipts from all sources	1,483,973.11	1,689,828.75
Deliveries	1,618,712.16	2,160,764.60
Gross stocks end of month	37,569,100.87	37,778,455.10
Sediment and surplus	2,497,521.68	2,550,886.26
Total liabilities end of month	35,071,579.19	35,227,568.84
Outstanding acceptances	27,626,592.54	28,181,375.24
Credit balances	7,444,986.65	7,046,193.60

The above receipts from all sources for January were made up as follows:

Transferred from United Pipe Line as reported to N. F. Hilton, representing Conference of Oil Exchanges	5,994.12	
Less sediment and surplus	....	
Net amount from United Pipe Lines		....
Runs from wells		1,451,864.14
Received in iron tanks		26,114.85
Total		1,483,973.11

Refined petroleum in tin cases is claimed to exert an influence on the compasses of a vessel, equal to the same amount of iron or steel. The masters of the German ship, J. Weisselham, and the schooner Maggie Dalling, have made written reports to the above effect, and in the latter instance the captain states that his vessel was run ashore through error in his compass caused by the cased petroleum with which it was loaded.

THE PETROLEUM AGE.

DEVOTED TO THE

Interests of the Petroleum Trade.

PUBLISHED MONTHLY BY

McMULLEN & SNELL.

BRADFORD, PA.

W. C. ARMOR, MANAGER.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid) . . . . . $3.00 per Year in Advance.
Subscription Price (Postpaid) . . . . . $1.75 per 6 months in Advance.
Foreign Subscription . . . . . $3.50 per Year in Advance.
Single Numbers . . . . . 30 cents.
The Bradford office of the AGE is in the Producers Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

The Allegany field presented no features of interest during the first month of the year. Drilling and rig building continue at a low ebb and at present there are no visible signs of improvement. On the last day of the month there were five new rigs and twelve drilling wells in the field. The average daily pipe line runs for January underwent a reduction of 751 barrels from the December figures. At the present time no preparations are being made to increase the volume of new work.

BRADFORD FIELD.

Since the blizzard swept over the Bradford field on the 26th of January, operators in some sections have been busy building new rigs, and this is about the only activity noticed in the district outside of the Cole Creek division. There is some room to drill in this field, but the price of oil must range higher before the drill will have much play in those portions where the light territory remains to be operated. Fifteen wells were finished in January, and of this number two are tabulated with the dusters. The new wells had a production on the last day of the month of 207 barrels. Bayne & Fuller's dry hole is situated on the southeastern corner of lot 590, where a good well was expected. On the last day of the month there were 12 new rigs, 53 which had been standing for 30 days or longer, and 12 wells drilling, making a total of 77 against 75 reported on the last day of the previous month. The pipe line runs for January indicate a marked decrease from those of Debember, the difference being 3,378 barrels in the daily averages. At this writing the stocks at wells have not been compared.

WARREN AND FOREST.

The quiet that has reigned for so long over the great Middle Field was slightly disturbed during January by rumors from the southwest extension of the Balltown field. May, Kelly & Grandin's No. 28 on warrant 5,215, which had remained shut down on top the sand since last May, was drilled through the oil producing rock. Its greatest output for a single day was less than 250 barrels, but this was at once magnified into three times that amount by the insidious whisperers, who delight in spreading news of a character calculated to create a bearish feeling in the speculative trade.

On the eastern edge of warrant adjoining 5,215 on the southwest, James Goff & Co., of Clarendon, have an interesting experiment under way, which, from its location, is regarded with considerable interest. At the present writing it remains shut down, above the sand. It is reported that the indefatigable Murphy has secured a controlling interest in this well, and will manipulate it in the most approved mystery style.

The Parker well, above Kinzua village, remains *in statu quo*. The owners are busy conducting two other experiments in the immediate vicinity, which seems to indicate that this mystery has at least afforded favorable pointers for a more satisfactory test.

There were 15 producing wells and 3 dry holes completed in Warren and Forest counties in January. On the first of the present month there were 22 new rigs and 21 drilling wells in the field. The old rigs, those that had been standing 30 days or more, numbered 36.

THE LOWER COUNTRY.

There was nothing new to report along Oil Creek and down the Allegheny as far as Emlenton for the month of January. On the high ground of Cottage Hill, overlooking Oil City, Hasson & Co. finished a dry hole and Coarse & Co. completed a small well near the mouth of Cornplanter Run. In the Cranberry district a slight increase was noticed in new work. West of Emlenton a good well was finished for that section, by Sherry & Knight, on the Crawford farm. A single well was drilling above the town of Emlenton on the east side of the Allegheny River.

A ripple of excitement came up from Clarion county when the drill penetrated the sand at the Cogley Oil Co.'s well on Cogley Run. The well is located on the Berlin farm, four miles north of Edenburg and about two miles from the western or northern edge of the belt. The sand was struck at a depth of 986 feet and the drill stopped when a depth of 1008 feet was reached. The well was tubed on the eighth day of January, and measurements taken on the 22nd by an AGE

representative showed that the well had produced 150 barrels in two weeks. At the time when the gauge was obtained the well was producing about eight barrels per day. Though a small producer the well will cause some drilling to be done in its immediate vicinity. A forty-five degree line, drawn in a northeasterly direction from Ritchie Run, will pass near the well. At this writing, February 20th, the territory southeast of the McBride and Mushrush wells in the Thorn Creek district, remains in an experimental condition. The Lockwood well, one location north of the McBride, proved a smaller well than the trade anticipated, and its reduced size can only be accounted for by drainage on the part of the McBride. The Mushrush No. 1 and the McBride well show a streak of territory 80 rods in width which should afford wells varying in size from 1800 barrels to 4800 when at their best. The Clark, Reep & Sutton well on the McLaughlin farm, and Murphy No. 1, on the Mangel, at present writing are reported dry. The twenty wells finished in the Baldridge and Thorn Creek districts during January had a new production on the last day of that month of 2,300 barrels. The Phillips Bros. No. 1, on the Mushrush farm, was the only large well completed. Its yield on the last day of the month was 1,800 barrels. On the first of February there were 10 new rigs, 4 old ones and 43 wells drilling in the Thorn Creek section. February 14th there were 12 rigs up and building, and 47 wells drilling. Judging from the gauges by the scouts and the pipe line runs, the Thorn Creek field is given too much weight in finding a lodgment for the price of oil on the scale. The pipe line runs for January declined 2,531 barrels from the December average.

MAP of the Thorn Creek field, with statistical record of its development sent postpaid to any address on receipt of one dollar.

Map of western part of Washington county, Pa., showing location of the Gantz well, the McGugan gasser, etc., post free, for two dollars.

We are now prepared to furnish large or small maps of the most interesting sections of the field in large or small quantities at low rates, to brokers and oil firms. For terms address THE PETROLEUM AGE, Bradford, Pa.

THE production of the entire region for January is 5,098 barrels per diem less than for December, and 3,680 barrels below the average for January one year ago.

THE GANTZ WELL.

Away down in the southwestern part of the State, at Washington, the county seat of Washington county, a well was drilled into the sand on the night of December 31st, 1884, which has attracted some attention, and on several occasions has exerted a mildly bearish influence on the market. It is situated on the Gantz mill property, which consists of a steam flour mill and one acre of ground, and from this it takes the name of the Gantz well. The mouth of the well is 1,031 feet above tide level, and the total depth by cable measurement, 2,192 feet. From these figures it is seen that the sand is about 1,150 feet below tide level.

Drilling was suspended at this well at 8 o'clock on New Year's eve. They had found 8 feet of red sand which afforded good indications of oil. Then the drill passed through one foot of slate and after that into a white pebble sand. They drilled about a half hour the next morning and at 1 p. m. there was 1200 feet of oil in the hole. On January 10th the oil had risen to the top of the casing, when a shut-off valve was arranged and a sand cap attached to the casing head. The tools were then placed on top of the cap, which was all the plugging the well ever received. By January 19th a 600 barrel tank had been erected and connections made to the well through two lead pipes. The stop cocks were then opened and the well made its first flow. It lasted about eleven minutes and amounted to nearly fifty barrels. On the 26th of January there was 2,000 feet of fluid in the hole. It was agitated with the bailer until it made its second flow, which is estimated at 30 to 35 barrels. On February 6th the well was shot with 40 quarts of nitroglycerine. The torpedo exploded at 5.25 and the response came at 6.20 p. m. Upon running the bailer the hole was found bridged over at the bottom of the casing. For the 24 hours ending February 11th the well made 12½ inches in a 600 barrel tank.

Sucker rods and a working barrel have since been put in the well, and on the 19th inst. it pumped 50 barrels in 18 hours.

MR. P. M. SHANNON, ex-burgess of Millerstown, owner of the pioneer well on the Cooper tract, and a most genial and whole-souled oil producer, has been elected mayor of the City of Bradford.

Pipe Line Stocks were decreased 179,780 barrels during January.

JANUARY OPERATIONS.

THE ENTIRE REGION,—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN JANUARY, 1885.

Allegany Field.

Lot.	Owner.	Barrels.
Scio, lot 4,	McEnroe & Elliott No 4	5
Alma, lot 37,	Perrin & Young	5
do 37,	do	5
do 68,	O L Mathews	3
Wirt, lot 1,	Early Bros	5
do 1,	Dewees & Donnell	5
do 12,	W L & O B Smith	dry
do 30,	John Moran	dry
do 43,	(Wilcox Farm) Allegany Gas Co (gas)	dry
do 61,	(Deyoe Farm) National Transit Co (gas)	dry
Bolivar, lot 42,	Pliny Parker	2
Clarksville, Gesman,	Wasson & Madison	5
Clarksville, lot 4,	(Hubbard Farm) Cuba Gas Co	dry

Miscellaneous.

Cayuga Co., N Y,	Owasco Valley Oil and Mining Co dry

Wells	14
Production	35
Dry	6

Bradford Field.

Scott Purchase,	R G Taylor 5
Warrant 3,908,	A A Hopkins dry
Warrant 3,350	(R George Farm) W H Lesh & Co 3
Buchanan,	D Snyder 6
Quintuple, lot 138,	Campbell & Yonkins 10
Brennan,	A W Boyd 8
Evans Purchase,	Gibson & Sanderson 10
Bingham, lot 590,	Bayne & Fuller dry
do 557,	Rose & Byron No 1 20
do 567,	Rose, Byron & McLeod No 1 10
do 568,	Associated Producers 25
do 580,	do do 40
do 592,	do do 40
do 593,	T J Melvin No 2 25
do 593,	T J Melvin No 3 5

Wells	15
Production	207
Dry	2

Warren and Forest.

Glade and other Towns.

Clark,	S M Cogswell & Co No 2 5
Lacey,	W H Bradley No 4 6
Kerberger,	Sargent & Co dry

Wells completed	3
Production	11
Dry	1

Clarendon.

463,	A. Wolf & Co No 3 4
464,	Fred Hue & Co 6
526,	Emerson & Co No 5 6

Wells completed	3
Production	16
Dry	0

Tiona.

104,	Armor & Co No 3 8
109,	J R Kuhn & Co No 6 6
—,	J Neall 7
165,	Whitehill & Co No 5 8
203,	Shoelkopf & Co No 2 6
204,	Sage, Kelley & Welsh 6
204,	W J Wood & Co No 1 8
204,	Mandel Oil Co No 1 7
204,	Booth, Bovaird & Seyfang No 8 8

Wells completed	9
Production	64
Dry	0

Balltown.

5,215	May, Kelley & Grandin No 28 75

Wells completed	1
Production	75
Dry	0

Miscellaneous.

Forest, lot 3,164,	J M Arters dry
Warren,	Youngsville, McKinney Farm, Brokenstraw twp., Calhoun & Co dry

Lower Country.

Venango.

Galbraith,	Cramer & Co 2
Gregg, Fred.	Benninghoff dry
Pine Grove,	Speechly dry
McKinley,	Course 2

Vicinity Emlenton.

A M Crawford,	Sherry & Knight 10
H Leslie,	T Dutton 3
Robinson,	Gorman 10
Sam Turner,	Sam Turner dry

Wells	8
Production	27
Dry	3

Clarion.

Berlin,	Maxwell & Laughner, (Cogley Run Oil Co) 8

Wells	1
Production	8

Butler and Armstrong.

Sheakley,	Sheakley 5
Wiles,	Wilson & Smith 3

Wells	2
Production	8

Thorn Creek.

Wallace,	Fisher Oil Co No 16 50
do	do No 17 est 10
Marshall,	do No 4 45
do	do No 5 80
do	Greenlee, No 2 35
do	Lappe, No 1 (not producing)
do	Lappe, No 2 15
Bartley,	Christie Bros No 7 10
do	Phillips Bros No 10 125
do	do No 11 75
Dodds,	do No 4 10
do	do No 5 10
McCandless,	Phillips Bros No 4, est 30
Mushrush,	Phillips Bros No 1 1800
R Fisher,	Connors, Fishel & McJunkin dry
Manny,	McKelvy & Co dry
Critchlow,	Reed dry
Leiblar,	Phillips Bros dry
Kennedy,	Babbitt 5
Maharg,	Boyd & Armstrong dry

Wells	22
Production	2308
Dry	5

DRILLING WELLS, RIGS UP AND BUILDING FEB. 1, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
2,	Coast Oil Co No 31 (old)	rig
3,	Coyle (old)	rig
4,	McEnroe & Elliott No 5	rig
4,	Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12,	do No 10 (old)	rig
50,	The Union Oil Co No 8 (old)	rig
50,	do do No 9 (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Pickering & Smith (foundation laid) (old)	rig

New rigs	1
Old rigs	10
Drilling	0
Total	11

Alma.

1,	Phillips Bros No 14 (shut down) (old)	300
1,	do No 15 (old)	rig
23,	Vance & Horton (old)	3 rigs
24,	New Milford Oil Co old)	2 rigs
24,	W F Jones (old)	rig
24,	S. G. Bayne, No 5	700
37,	Perrin & Young	rig
51,	Sawyer & Co (old)	rig
55,	W P Decker (old)	rig
55,	Wanamaker & Furman	sand
86,	Shirley & Hochstetter	drilling
107,	do	rig bldg
88,	Duke & Co (old)	rig
142,	Dean & Smith No 5 (old)	rig

New rigs and shut down	2
Old rigs	10
Wells drilling	3
Total	15

Wirt.

1,	Applebee Bros	1000
1,	do	rig
14,	Lester & Co. (old)	rig
33,	Miner, Wellman & Fuller (old)	rig
52,	Allegany Gas Co (old)	rig
52,	Dyer Oil Co	drilling
60,	(Jordan Fm) Lester, Jordan & Co,	drilling
61,	Wilcox farm, National Transit Co	drilling
Skinner farm,	Dow & Knox	rig
Wheeler,	McKenzie & Co(old)	rig

New rigs	2
Old rigs	4
Wells drilling	4
Total	10

Bolivar.

4,	(Cole tract) Matson & Caldron (old)	rig
7,	W & J Duke No 16 (old)	rig
7,	Coast Oil Co No 20 (old)	rig
7,	do No 42 (old)	rig
7,	do No 45 (old)	rig
15,	Fay (old)	drilling
15,	Sawyer & Co (old)	rig
23,	F C Streeter & Co No 7 (old)	rig
23,	Irvin & Morgan No 5 (old)	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	do do No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
Wetherby,	Empire Gas Co (old)	rig

New rigs	0
Old rigs	12
Drilling	1
Total	13

Clarksville.

9,	Henston & Brecht No 4 (old)	rig
9,	Merritt (old)	rig
McDougal,	Clover & Co	300
10,	Whipple Bros (old)	rig
12,	National Transit Co (for gas)	drilling

New rigs	0
Old rigs	3
Wells drilling	2
Total	5

Genesee.

8,	I Willets (to the top of sand	drilling
8,	do (to the top of sand)	drilling
14,	Merwin (old)	rig
21,	Empire Gas Co No 3 (old)	rig
22,	I Willets No 13 (old)	rig
22,	do No 14 (old)	rig
22,	do No 15 (old)	rig
22,	do (old)	rig
23,	Hughes & Coughlin (old)	rig
23,	Emery Oil Co No 16 (old)	rig
23,	do do No 17 (old)	rig
Champlain,	Emery Oil Co No 8 (old)	rig
29,	William Cranston (old)	rig
31,	H L McMullan & Co (old)	rig
38,	S E Young (old)	rig
38,	Empire Gas Co (old)	rig

New rigs	0
Old rigs and wells shut down	16
Drilling	0
Total	16

Miscellaneous.

Gains,	Peck & Tait (old)	rig
Near Auroa,	N. Y., Allen & Co (for gas)	drilling
Chemung Co,,	N. Y., Ira Sawyer	drilling

New rigs	0
Old rigs	1
Wells drilling	2
Total	3

Bradford Field.

East and West Branches.

Paton,	McClure & Co (old)	rig
Clark,	McCray Bros (old)	rig
Willis,	do No 29 (shut down)	550
Glass,	Barnsdall Bros (old)	rig
Dent,	P C L & P Co No 64 (old)	rig
do	do do No 65 (old)	rig
do	Whitney & Wheeler No 40 (old)	rig
Mill lot,	Whitney & Wheeler No 9 (old)	rig
Paul,	Bayne, Fuller & Melvin No 5(old)	rig
Wilson,	West Branch Oil Co No 11 (old)	rig
Cary,	Duncan No 4 (old)	rig
Mack,	Fisher Brothers No 19 (old)	rig
—,	A K Darrow	450
Bowen lands,	Phillips & Co, (shut down) (old)	600
Hinchey,	McMurray Bros & Co No 6 (old)	rig
Prain,	Brinton & Dale (old)	rig bldg
Rutherford,	J T Jones	700
Warrant 2,258,	Geo H Van Vleck	drilling
Stinson,	Asher Brown No 9	rig

Quintuple.

25,	O H Strong (old)	rig
44,	J W Humphrey (old)	rig
107,	J S Wilson	rig bldg
220,	Clark, Stearns & Co (old)	rig

New rigs	2
Old rigs and shut down	18
Drilling	3
Total	23

Kendall Creek.

Melvin,	P C L & P Co No 85 (old)	rig
do	do do No 86 (old)	rig
do	do do No 87 (old)	rig
Borden,	Urquhart & Lavens (old)	rig

Morton, Dan Clark No 3 (old) . . . . rig
do do do No 4 (old) . . . . . rig
Dodge, Dodge & Carter . . . . . drilling
Willets, I Willets (old) . . . . . rig

New rigs 0
Old rigs 7
Drilling 1
Total 8

Fosler Brook.

E T Co, Boyne, Penny & Coleman No 11 (old) rig
do F L Blackmarr & Post No 5(old) rig
do Utter & Co (old) . . . . . rig
C B & H, Watson Oil Co No 33 (old) . rig
do do do No 34 (old) . rig
do Juter & Yager (old) . . . . . rig
do P W Bulger & Dana (fishing) sand

New rigs 0
Old rigs 6
Well drilling 1
Total 7

Four Mile.

Van Campen Wm M Brown (old) . . . rig
do Merrill & Perrin (old) . . rig
do Geo Van Campen & Sons No 21 (old) . . . . . rig
do Geo Van Campen & Sons No 22 (old) . . . . . rig
do Gregg, Cadwell & Co No 5 350
do Gregg, Cadwell & Co No 6 (old) rig
do Wm Doe No 6 (old) . . rig
Waters, Griffin & Howard No 2 (old) . rig
C B & H, James Smith (old) . . . . . rig
Stevens, Burns Bros . . . . . drilling

New rigs 0
Old rigs 8
Drilling 2
Total 10

Indian Creek.

Barse, Union Oil Co No 36 (old) . . . . rig
North Branch, J D Downing & Co (old) 2 rigs
Keating, Forest Oil Co No 47 300
Hamlin, Miller & Odell No 4 (old) . . rig
Zimmer, Shear Bros (old) . . . . . 2 rigs
Morse, Morse & Brown (old) . . . . . rig
Miles Loop, Union Oil Co No 25 (old) rig
Gale, Mallory & Co . . . . . rig

New rigs 1
Old rigs 8
Drilling 1
Total 10

Cole Creek.

Rew, Capt E Frawley (old) . . . . . rig
Bingham, lot 537 Union Oil Co No 31 (old) rig
do lot 550 do No 32 (old) rig
do lot 495 do No 3 (old) rig
do lot 579 do No 11 1200
do lot 579 do No 13, rig bldg
do lot 570 do No 14, rig bldg
do lot 570 do No 15, rig bldg
do lot 570 do No 16, rig bldg
do lot 594 Bayne & Fuller . . . 600
do lot 567 Associated Producers rig
do lot 568 do 300
do lot 580 do 300
do lot 557 Rose & Byron . . . . rig
do lot 557 do . . . . rig bldg
do lot 567 Rose, Byron & McLeod . . . . . rig

New rigs 8
Old rigs 4
Drilling 4
Total 16

Kinzua.

Bingham, Union Oil Co No 56 (old) . . rig
do Emery Oil Co No 40 (old) . . rig
Niles Tract, Chapin & Co . . . . . rig

New rigs 1
Old rigs 2
Drilling 0
Total 3

Warren and Forest.

Glade and Other Towns.

Fuller farm, Kinzua, Jas Parker & Co., shut down) 500
Swift farm, Kinzua, Jas Parker & Co., rig
5542, (Elk twp) Schnur & Robbins (old) rig
Cobham, Union Oil Co No 13 (old) . . rig
Cobham, Union Oil Co No 21 800
Foster, Wesley Chambers No 1 (old) . rig
Rankin, Hue & Hand . . . . . rig
Nesmith, Best & Co . . . . . rig
Shultz, Shultz & Co . . . . . rig
Parks, Kern & Smith . . . . . sand
Near Cemetery, S A Logan . . . . . rig
McWilliams, Pickett & Co . . . . . rig bldg
Rogers, Barnsdall Brothers No 14 (old) rig
do do No 15 (old) rig
do do No 16 (old) rig
Rogers, Beecher & Copeland (old) . . rig

New rigs 6
Old rigs 8
Drilling 2
Total 16

Clarendon.

54, D Beatty & Son No 36 (old) . . . rig
78. do do (old) . . . . . 2 rigs
—, John Bell . . . . . drilling
463, Steelsmith & Co 500
464, Riddlesperger Bros 600
464, King & Magee No 1 600
464, King & Magee No 2 . . . . . rig
464, A Branch & Co No 1 . . . . . rig
464, Columbia Oil Co No 17 (old) . . . rig
464, Grossenberg . . . . . rig bldg
106, Golden & Co (old) . . . . . rig
108, C H Filkins (old) . . . . . rig
495, W W Ballard No 4 (old) . . . . rig
527, Goal Bros No 2 600
527, do No 3 (old) . . . . . rig
527, do No 4 (old) . . . . . rig
561, F H Rockwell & Co No 13 (old) . rig
583, do No 14 (old) . rig
557, E O'Donnel & Co No 3 . . . . . rig
557, Dyson & Lowden No 6 400
590, Clark & Co No 2 . . . . . rig

New rigs 5
Old rigs 11
Drilling 6
Total 22

Tiona.

59, Fertig & Henne (shut down) . . . sand
75, do (shut down) . . . sand
82, do 600
109, J R Kuhn & Co No 7 . . . . . rig bldg
109, J S Patterson No 31 (old) . . . . rig
109, Schonblom & Townsend No 8 (old) rig
110, Fertig & Henne (old) . . . . . 2 rigs
161, Helm & Mealey (old) . . . . . rig
161, do 600
162, Hill & Powell . . . . . rig
162, do . . . . . rig bldg
165, Whitehill & Co No 6 500
165, do do No 7 . . . . . rig
165, Mealey & Co 800
201, W Chambers No 1 . . . . . rig bldg
201, L H Best No 1 800
201, do No 2 . . . . . rig
204, Emerson & Farnsworth No 8 . . . 600
204, W J Wood & Co No 2 200
204, do No 3 . . . . . rig bldg
204, Mandell Oil Co No 2 . . . . . sand
204, Mandell Oil Co No 3 . . . . . rig
204, Booth, Bovaird & Seyfang No 9 . . rig
241, F W Winger, No 4 . . . . . sand
241, L Kraeer & Co No 2 . . . . . sand

New rigs 9
Old rigs 7
Drilling 10
Total 26

Cooper Distrlct.

Lot 438, Shank & Emery No 23 (old) . . rig
Cooper tract, Lot A, C Campbell & Co, rig
—, Melvin, Walker & Co . . . . . rig

New rigs 2
Old rigs 1
Drilling 0
Total 3

Balltown.

3194, Porcupine Oil Co No 21 (old) . . rig
3195, Emery, & Co No 6 (old) . . . . rig
3195, do do No 7 (old) . rig
4821, Balltown Oil Co No 23 (old) . . . rig
4821, do do No 24 (old) . . . rig
4821, do do No 25 (old(. . . rig
4792, Howe Oil Co No 17 (old) . . . . rig
4792, do do No 18 (old) . . . . rig
5215, May, Kelly & Grandin (old) . . . rig
—, N F Clark . . . . . drilling

New rigs 0
Old rigs and shut down 9
Drilling 1
Total 10

Miscellaneous.

Forest, 5214, J Goff & Co (shut down near sand)
Warren, Grand Valley, Milton Stewart & Co . . . . . drilling

New rigs 0
Old rigs 0
Drilling 2
Total 2

Lower Country

Venango.

Button, J B Smithman (old) . . . . . rig
Diamond, Loots (fishing) 160
McCalmont, S P McCalmont No 6 . . drilling
do do No 7 (old) rig
Blood, William Baker No 3 (old) . . . rig
Pithole Creek, Sam. Hancock (old) . . rig bldg
O Lain, Playford & Co (old) . . . . . rig
Gallagher, Galbraith & Shepherd . . . 500
O D Harrington, do . . . rig
Galey, Denison & Co . . . . . rig
Hill (near Salina) Wood & Walker . . 400
Diamond, Darr & Manning No 5 . . . 500
do do No 6 . . . rig bldg
Morrison, Fisher Bros 600
McCormack, T H Phinney . . . . . rig bldg
Thomas Tarr, Joseph Gray 200
Churth Run, E O Emerson . . . . . drilling
Kauffman, A P Dale . . . . . rig
do do . . . . . rig bldg
Keaberline, Oil City Fuel Supply Co (for gas) . . . rig

Vicinity Emlenton.

S. P McCalmont, J Wallrabenstein . . 600
Robinson, Gorman . . . . . rig bldg
McCullough. Porterfield & McCombs . 1000
Ritchie, Eben Crawford 600
David Crawford, Thomas & Jamison . 400

New Rigs 8
Old Rigs 5
Wells drilling 12
Total 25

Clarion.

Wagner, Jacob Hahn, (old) . . . . . rig
Sweitzer, Bartlett & Co . . . . . sand
Amsler, Amsler & Co (old) . . . . . rig
Young, Young Farm Oil Co . . . . . rig
do Mckeever & Co . . . . . rig
do Kale & Co . . . . . rig bldg
Widow Deiter, Barber . . . . . rig bldg
Young, McIntyre . . . . . rig bldg
Starr, Richards, Zellers & Co 500

New rigs 5
Old rigs 2
Drilling 2
Total 9

Butler and Armstrong—Various Seclions.

Clay, Queen Bros 1100
Pontius. Hunter & Cummings . . . . . rig
Humes, Hunter & Cummings . . . . . drilling
Young, J W McKee No 1 200
Turner, do No 3 . . . . . rig
Graveyard lot, W A Kelley, ... 100
Archibald Kelly, Hooks Bros No 3 . . . rig
Abner Kelly, Meldren Bros No 1 . . . 100
Thos Kelly, Conley, Butler & Manifold rig
Bredin, Rigney & Co (old) . . . . . rig
L Witt, Greenlee & Russell 1000
do Dale, Larkin & Co 1000
Witt, H McGuire & Co, ... 1000
W Wicke, M K McMullen . . . . . rig
Robb, do . . . . . sand
Friel, James Rahbit . . . . . rig
Minster, Phillips Bros 100
T Hoon, Columbia Oil Co 500

Thorn Creek.

Wallace, Fisher Oil Co., No 18 600
do do No 19 . . . . rig
Marshall do No 7 1200
do do No 9 1160
do do No 10 1150
do do No 11 1150
do do No 12 1425
do do No 13 1250
do do No 14 50
do do No 15 1000
do do No 16 . . . . rig
do do No 17 . . . . sand
Scully, do 600
Herman St'n, do 1300
Marshal, Armstrong, Boyd & Semple No 3 sand
do do do No 4 850
Dodds, Phillips Bros No 6 1600
McCandless do No 2 1575
do do No 3 1600
Mushrush do No 2 1050
do do No 3 1000
do do No 4 1100
do do No 5 250

Kennedy, Assoc'd Producers Co	No 3	1150	Brackney, Charles L Jones	rig bldg
do do do	No 7	rig bldg	Thos Graham, Baldridge Oil Co (old) .	rig
do do do	No 8	600	Lavery, Connors & Fishel (old) . . .	rig
do do do	No 12	400	do J H Markham	1000
do do do	No 11	50	Alexander Welsh, Christy Bros	650
Sutton & Scully, do	No 4	1100	Wm Kennedy, S W Harley, agent . .	600
do do	No 5	1300	Kersting, Sutton & Harper	650
do do	No 9	100	Rankin, McBride & Campbell No 1 . .	800
do do	No 10	rig	Kennedy, M L Lockwood	1350
Scully, Assoc'd Producers Co	No 6 . .	500	Hite, Barnum & Co (abandoned) . . .	rig
Buhl, do do	No 1 . .	700	Mangel, M Murphy No 1	1300
Buhl, do do	No 2 . .	rig bldg	do do No 3	rig
Bredin, do do	No 1 . .	rig	Marburger, Boyd & Armstrong	1200
Girard, Alshouse		500	Crow, Sheidemantle	1400

Reibold, Painter & Tinsman	1350
Crawford, James Gillespie & Co . .	300
Girard, J H Markham	rig bldg
Girard, Ackerly	rig bldg
Hilliards, Southern Oil and Transportation Co . .	rig bldg
D McLaughlin, Clark, Reep & Sutton	sand
New Rigs	17
Old Rigs	4
Wells drilling	54
Total	75

FIELD OPERATIONS SUMMARIZED.

Wells Completed, With the Estimated Production on the Last Day of the Month.

ALLEGANY.

Division of Field.	JANUARY, 1885. Wells.	Prod'n.	Dry.	DECEMBER, 1884. Wells.	Prod'n.	Dry.
Scio	1	5	0	1	5	0
Alma	3	13	0	2	10	0
Wirt	6	10	4	1	0	1
Bolivar	1	2	0	0	0	0
Clarksville	2	5	1	1	3	0
Genesee	0	0	0	0	0	0
Miscellaneous	1	0	1	2	0	2
Total	14	35	6	7	18	3

BRADFORD FIELD.

Division of Field.	JANUARY. Wells.	Prod'n.	Dry.	DECEMBER. Wells.	Prod'n.	Dry.
E. & W. Branches	5	24	1	0	0	0
Kendall Creek	1	8	0	2	8	0
Foster Brook	1	10	0	0	0	0
Four Mile	0	0	0	5	37	0
Indian&Meeks Cr'ks	0	0	0	0	0	0
Cole Creek	8	165	1	0	0	0
Kinzua	0	0	0	0	0	0
Total	15	207	2	7	45	0

WARREN AND FOREST.

District.	JANUARY. Wells.	Prod'n.	Dry.	DECEMBER. Wells.	Prod'n.	Dry.
Glade	3	11	1	2	5	1
Clarendon	3	16	0	7	40	0
Tiona	9	64	0	10	65	0
Cooper	0	0	0	0	0	0
Balltown	1	75	0	1	8	0
Miscellaneous	2	0	2	5	0	5
Total	18	166	3	25	118	6

LOWER COUNTRY.

District.	JANUARY. Wells.	Prod'n.	Dry.	DECEMBER. Wells.	Prod'n.	Dry.
Venango	9	32	3	6	20	1
Clarion	1	8	0	1	10	1
Butler and Armstrong	22	2308	5	27	5385	3
Total	32	2348	8	34	5415	5

GRAND SUMMARY.

District.	JANUARY. Wells.	Prod'n.	Dry.	DECEMBER. Wells.	Prod'n.	Dry.
Allegany	14	35	6	7	18	3
Bradford	15	207	2	7	45	0
Warren and Forest..	18	166	3	25	118	6
Lower Field	32	2348	8	34	5415	5
January Total	79	2756	19	73	5596	14
Dec. Total	73	5596	14			
Difference	6	2840	5			

Rigs Up and Building.—Wells Drilling.

ALLEGANY FIELD.

Division of Field	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.	JAN. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Scio	1	10	0	11	0	10	1	11
Alma	2	10	3	15	1	13	4	18
Wirt	2	4	4	10	2	4	6	12
Bolivar	0	12	1	13	0	13	1	14
Clarksville	0	3	2	5	2	2	2	6
Genesee	0	16	0	16	0	16	0	16
Miscellaneous	0	1	2	3	0	1	2	3
Total	5	56	12	73	5	59	16	80

BRADFORD FIELD.

Division of Field.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.	JAN. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
E. & W. Branches	2	18	3	23	0	18	4	22
Kendall Creek	0	7	1	8	0	8	1	9
Foster Brook	0	6	1	7	0	6	2	8
Four Mile	0	8	2	10	0	9	1	10
Indian Creek	1	8	1	10	0	9	0	9
Cole Creek	8	4	4	16	1	8	6	15
Kinzua	1	2	0	3	0	2	0	2
Miscellaneous	0	0	0	0	0	0	0	0
Total	12	53	12	77	1	60	14	75

WARREN AND FOREST.

Division of Field.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.	JAN. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Glade	6	8	2	16	1	6	4	11
Clarendon	5	11	6	22	2	13	0	15
Tiona	9	7	10	26	8	7	7	22
Cooper	2	1	0	3	0	1	0	1
Balltown	0	9	1	10	0	10	0	10
Miscellaneous	0	0	2	2	0	1	4	5
Total	22	36	21	79	11	38	15	64

LOWER COUNTRY.

Division of Field.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.	JAN. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Venango	8	5	12	25	7	3	11	21
Clarion	5	2	2	9	2	1	1	4
Butler & Armstrong	17	4	54	75	28	0	44	72
Total	30	11	68	109	37	4	56	97

GRAND SUMMARY.

Field.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.	JAN. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Allegany	5	56	12	73	5	59	16	80
Bradford	12	53	12	77	1	60	14	75
Warren & Forest	22	36	21	79	11	38	15	64
Lower Country	30	11	68	109	37	4	56	97
Total Feb. 1, '85	69	156	113	338	54	161	101	316
Total Jan. 1.	54	161	101	316				
Difference	15	5	12	22				

MR. J. F. DOWNING has struck a vein of gas in his well, near Erie, and will utilize it for fuel and light at his dwelling house in the city.

M. MURPHY'S No. 1, on the Mangell was drilled to a depth of 1,712 feet. Only two feet of white sand was found, and the well is twenty feet below the spot where they expected to find the oil producing rocks.

The value of imports into Mexico from the United States for the past three years was as follows:

1882.	1883.	1884.
$226,115.	$249,404.	$197,552.

STOCKS ABROAD.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

Stocks Afloat and Ashore.	Jan. 24, 1885. Barrels.	Dec. 20. 1884. Barrels.
London	130,903	184,358
Trieste	41,723	55,244
Seven Continental Ports	1,051,947	1,322,666
Total Stocks afloat and ashore	1,224,573	1,562,208
Decrease in Stocks since December 20	337,635	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1884. The shipments represent the amount of oil going to the interior of Europe from the seaports.

STOCKS IN FOREIGN PORTS JANUARY 20, 1885.

	Stocks W'k end'g Jan. 24.		Stocks Afloat W'k end'g Jan. 24.		W'k end'g Jan. 24. Loading.		Grand Total Stocks Afloat & Loading.		Receipts. From July 1.		Shipments From July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	365,059	78,252	17,839	30,651	9,000	22,000	391,898	130,903	388,145	286,299	381,039	376,599
Trieste	1,804	17,837	78,069	23,886	. . .	. . .	79,873	41,723	103,031	71,768	125,105	98,936
Bremen	794,468	466,458	52,149	52,804	34,500	8,000	881,117	527,262	522,852	370,855	623,011	700,978
Hamburg	92,185	108,927	38,455	29,526	31,600	19,000	162,140	157,453	456,061	682,504	696,983	746,122
Antwerp	142,550	108,489	54,838	58,262	25,000	18,500	222,388	185,251	565,161	718,855	632 989	736,336
Rotterdam	40,695	42,162	12,306	16,883	4,500	6,000	57,501	65,045	116,584	144,351	151,075	160,133
Amsterdam	16,780	25,497	45,980	19,245	30,000	12,500	92,760	57,242	142,172	145,482	162,230	162,995
Stettin	48,896	39,817	. . .	2,466	. . .	2,700	48,896	44,983	169,471	202,222	188,916	204,023
Danzig	8,699	11,450	. . .	3,261	. . .	. . .	8,699	14,711	54,647	60,801	57,699	58,290
Total	1,144,273	802,800	203,728	182,447	125,500	66,700	1,473,501	1,051,947	2,026,948	2,325,070	2,512,903	2,768,877

	1882.	1883.	1884.	1885.
Total stocks exclusive Trieste	971,447	1,401,761	1,509,332	881,052
Total afloat, exclusive Trieste	205,049	143,924	221,567	213,098
Total loading, exclusive Danzig, London and Trieste	118.800	157,900	134,500	88,700
Total	1,295,296	1,703,585	1,865,399	1,182,850
Afloat and loading for direct Continental Ports	5,500	13,100	82,900	. . .
" " " Baltic Sea, exclusive Stettin and Danzig	. . . .	1,200	4,000	4,000
" " " English harbors, exclusive London	44,000	112,900	99,600	80,000
Grand Total	1,344,796	1,830,785	2,051,899	1,266,850

OFFICIAL STATEMENT, EXPORTS OF PETROLEUM, DECEMBER, 1884.

BY JOSEPH NIMMO, JR., CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., FEBRUARY 3, 1885.

CUSTOMS DISTRICT.	MINERAL CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING AND PARAFFINE OIL.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
Boston & Charlestown, Mass	. . . .	. . . .	. . . .	. . . .	781,322	75,393	23 679	4,696	. . . .	. . . .	805,001	80,089
New York, N. Y.	4,143,422	305,414	696,872	59,682	25,556,745	2,271,008	1,288,605	267,715	111,258	7,276	31,796,902	2,911,095
Philadelphia, Pa.	4,520,570	308 302	1,102,249	80,323	9,397,554	820,927	43,483	7,829	175,476	8,512	15,239,332	1,225,893
Baltimore, Md.	. . . .	. . . .	. . . .	. . . .	837,560	65,536	13,726	2,576	148,470	6,804	999,756	74,916
San Francisco, Cal.	. . . .	. . . .	5,860	1,689	27,080	6,131	1,602	1,011	. . . .	. . . .	34,542	8,831
All other districts	. . . .	. . . .	3,165	415	249,539	33.408	3,730	721	42	4	256,476	34,548
Total for Dec., 1884	8,663,992	613,716	1,808,146	142,109	36,849,800	3,272,403	1,374 825	284,548	435.246	22,596	49,132,009	4,335,372
Total for Dec., 1883	5,411,124	420,749	1,341,046	81,397	29,637,268	2,915,589	850,560	182,366	345,744	26,428	37,585,742	3,626,529
Total for 12 months ended Dec. 31, 1884	79,679,395	6 102,810	13,676,421	1 132,528	433,850,525	39,451,852	11,985,181	2 443,358	5,303,298	327.599	544,494,820	49,458,147
Total for 12 months ended Dec. 31, 1883	59,018.537	4 439,097	17,365,314	1 195,035	440,150,660	39,470,352	10,108,394	2 193,245	6,502,524	465,350	533,145,429	47,763,079

CRUDE QUOTATIONS FOR JANUARY, 1885.

Day of Week.	Day of Month.	Bradford.				Oil City.				New York.				Pittsburgh.			
		Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.
T	1	HOLIDAY.				HOLIDAY.				HOLIDAY.				HOLIDAY.			
F	2	74½	75⅞	74½	75	74¾	75¾	74⅞	75	74⅝	75⅞	74½	75	74¾	75¾	74⅝	75
S	3	75¼	75⅜	74⅛	74¼	75½	75⅝	74⅛	74¾	75¼	75½	74¼	74⅜	75⅛	75½	74¼	74⅜
M	5	74¼	74¼	73	73¾	74½	74½	73	73¾	74	74⅛	73	73⅞	74¼	74¼	73	73¾
T	6	74¼	74¼	73⅛	73⅜	74½	74½	73¼	73¼	74⅜	74⅝	73¼	73½	74	74¼	73¼	73⅜
W	7	73	73⅝	72¼	72¾	73⅜	73¾	72⅜	72¾	73	73⅝	72⅜	72⅝	73⅛	73¾	72⅜	72⅝
T	8	73	73⅜	72½	73	73	73½	72⅝	73	73	73⅜	72⅝	73	73	73⅜	72⅝	73
F	9	72¾	72⅞	71½	72½	73⅛	73⅛	71½	72½	72⅞	72⅞	71⅝	72½	73⅛	73	71½	72⅜
S	10	72⅝	73¼	72	72¾	72½	73¼	72	72¾	72¼	73¼	72	72⅜	72⅜	73¼	72⅛	72⅞
M	12	72¾	72¾	70⅝	70⅝	72¾	72¾	70⅞	70¾	72⅝	72⅝	70⅞	71	72½	72⅝	70¾	70⅞
T	13	70⅝	71⅜	70	70⅞	70½	71⅜	70	70⅞	70¾	71⅜	70	70⅞	70⅞	71⅜	70	70⅞
W	14	70⅝	70¾	69¾	70	70¾	71	69⅞	70	70⅞	70⅞	70	70	70¾	70⅞	70	70
T	15	70⅛	70⅜	69⅛	69⅜	70¼	70½	69	69¼	70	70½	69	69⅛	70	70⅜	69¼	69⅛
F	16	68	69⅜	68	69¼	68	69½	68	69⅜	68	69⅜	68	69⅜	68⅛	69½	68⅛	69⅜
S	17	69⅜	70¾	69¼	70½	69⅜	70¾	69¼	70⅜	69⅝	70¾	69½	69¾	69½	70¾	69⅜	70½
M	19	70½	70½	69⅛	69⅜	70¾	70¾	69⅛	69¼	70¼	70½	69¼	69¼	70¼	70½	69⅛	69¼
T	20	69½	70¼	69⅛	69⅜	69⅜	70¼	69⅛	69¼	69½	70¼	69¼	69¼	69¼	70¼	69¼	69¼
W	21	69½	69¾	68⅞	69¼	69½	69¾	68⅞	69¼	69½	69¾	68⅞	69¼	69¼	69⅝	69	69¼
T	22	69	69⅜	68⅜	69	69¼	69⅜	68¾	68⅞	69⅜	69⅜	68⅝	69	69¼	69¼	68¾	69
F	23	69	69⅜	68⅞	69⅛	69	69½	68⅞	69	69¼	69½	68⅞	69¼	69⅛	69⅜	69	69
S	24	69⅛	70⅜	69⅛	69⅞	69⅛	70½	69	69⅞	69⅜	70½	69¼	69¾	69¼	70⅜	69¼	69⅞
M	26	69¾	70¼	69	69	69¾	70¼	69⅛	69⅛	69¾	70¼	69¼	69¼	69⅞	70¼	69¼	69¼
T	27	68½	69¼	68⅛	68⅞	67¾	69⅛	68¼	68⅞	68¾	69⅛	68¼	69⅝	68½	69⅛	68¼	69⅛
W	28	69¼	69¾	68¾	69⅝	69¼	69⅞	68¾	69⅝	69¼	69⅞	68¾	69¾	69¾	69⅞	68¾	69¾
T	29	68¾	69⅞	68¾	69	69	70	68¾	69	69	69⅞	68⅞	69	69	70	68⅞	68⅞
F	30	69¼	69¾	68⅞	69⅛	69¼	69¾	69	69⅛	69⅛	69¾	69	69⅛	69	69¾	69	69⅛
S	31	69⅛	69⅜	69	69¼	69¼	69½	69⅛	69⅛	69½	69½	69⅛	69⅛	69½	69½	69¼	69⅛

AVERAGE DAILY RUNS BY DISTRICTS, 1882–84.

	Bradford	Allegany	Cherry Grove	Cooper	Baltown	Wardwell	Baldridge	All Other Fields	Total for Entire Country.
January 1882	55,006	7,222	....	....	....	....	....	11,541	73,769
February	63,313	9,512	....	....	....	....	....	10,722	83,547
March	58,078	14,760	....	....	....	....	....	10,894	83,732
April	53,108	17,622	....	....	....	....	....	10,395	81,125
May	55,955	19,522	218	....	....	....	....	11,262	86,957
June	56,016	22,765	3,037	....	....	....	....	13,968	95,786
July	52,456	23,884	8,655	....	....	....	....	19,311	104,306
August	49,711	20,814	24,315	....	....	....	....	10,985	105,825
September	46,585	16,387	23,002	....	....	....	....	10,567	96,541
October	42,107	19,964	9,363	120	....	....	....	14,286	85,840
November	41,404	16 993	4,886	294	....	....	....	10,012	74,589
December	39,580	14,020	3,180	559	87	....	....	14,993	72,419
January 1883	36,847	14,106	3,313	1,632	334	....	....	8,893	65,125
February	38,481	13,154	2,954	1,475	332	....	....	8,812	65,208
March	37,754	12,619	2,706	1,737	368	....	....	9,220	64,404
April	38,810	13,742	2,604	3,802	840	....	....	9,409	69,207
May	39,039	13,793	2,207	3,829	952	....	....	9,625	69,445
June	38,614	13,499	2,215	4,199	1,961	....	....	9,955	70,443
July	36,489	12,381	1,891	3,467	1,914	....	....	9,456	65,628
August	37,165	12,743	1,935	3,166	3,078	....	....	10,790	68,877
September	35,894	12,358	1,612	3,200	3,723	....	....	9,423	66,210
October	35,654	12,757	1,312	3,314	4,298	....	....	10,314	67,649
November	34,516	12,332	1,090	3,251	3,807	....	....	10,285	65,281
December	32,650	11,752	1,061	2,876	3,766	....	....	10,725	62,830
January 1884	31,020	11,018	767	2,908	2,808	....	....	9,657	58,178
February	33,987	12,025	968	3,743	2,816	....	....	11,034	64,573
March	33,049	11,777	1,001	4,631	2,813	....	....	11,319	64,590
April	34,370	12,261	1,039	4,229	2,399	475	844	10,176	65,793
May	34,946	12,193	968	3,468	2,260	1,015	1,061	10,777	66,688
June	35,701	11,672	845	2,985	2,250	2,042	969	10,886	67,350
July	34,718	11,114	533	2,476	2,471	4,277	889	10,224	66,702
August	33,782	10,384	665	2,046	2,189	6,483	843	10.604	66,996
September	33,449	9,989	653	2,155	2,115	4,056	2,644	10,891	65,952
October	31,500	8,802	446	1,811	1,781	2,201	6,034	10,489	63,064
November	29,552	8,642	423	1,302	1,401	1,346	9,493	9,592	61,751
December	30,632	8,193	407	1,246	1,189	979	8,730	10,367	61,743

CHRONICLES OF THORN CREEK FOR JANUARY.

Interest in the Thorn Creek field during the past thirty days has centered upon the probable extension of this prolific territory to the southeast of the McBride well. The experiment of Clark, Reep & Sutton, on the Daniel McLaughlin farm, one and one-half miles in advance of the McBride, has been the cynosure of the entire petroleum trade for several weeks. At this writing nothing definite can be said in regard to its productive calibre, but the indications denote that it will make a well. It was placed under guard for the first time on the 26th ult. On the 14th inst. it was thrown open to the inspection of the public, when a small quantity of oil was shown, with samples of the sand. The hole was full of water, but the torpedo will soon settle its future fate.

January 13. The Conners & McJunkin well on the R. Fisher farm boarded up and visitors refused admittance.

January 14. Phillips Bros.' test on the Leiblar, one and one-half miles southwest of Butler, through 8 feet of sand and dry. Fisher No. 4 still pumps nothing but water. No. 5 pumping 27 bbls. oil a day. Lappe No. 2 through sand and looking very dry.

January 15. Lappe No. 2 shot with sixty-quart torpedo. No response.

January 16. Armstrong No. 2 starts flowing at 3 a. m., and makes 40 bbls. an hour through the day. Supposed effect of shot at Lappe No. 2. This well had produced 75 to 100 bbls. a day from Christmas to January 12th, when it stopped. The tubing was pulled on the 15th, and on the following day it started up again with great vigor. Phillips No. 3, on Dodds, 29 feet in sand. No. 4 through the sand. Both showing light. Conners & McJunkin well reported dry.

January 19. Greenlee No. 2 through sand and shot. Cleaned itself, but made no further show of oil. Fisher No. 4 produced 40 bbls. in 19 hours.

January 20. Conners & McJunkin test on the Fisher farm drilled 50 feet below sand level and abandoned.

January 21. Phillips No. 4, on the McCandless, 15 feet in poor sand.

January 22. Phillips No. 11, on the Bartley, nearly through the sand.

January 26. McBride (now A. P. Co. No. 1), after being shut in for some time, has the stopcocks opened and makes 796 bbls. in 24 hours. Phillips No. 1, on the Mushrush farm, 15 feet in sand and made two small flows during the night. Has 800 feet oil in the hole this morning Lappe No. 2 shows oil for the first time.

January 27. Lappe No. 1, after pumping water for over a month, begins to show a little oil.

January 28. Mushrush, in 15 hours ending at 9 o'clock this morning, has produced 1,012 barrels of oil. At 5 p. m., 40 feet in sand and making 110 barrels an hour. Boyd & Co.'s well, on J. Maharg farm, 15 feet in poor sand with no oil.

January 31. Mushrush 55 feet in sand and flowing 80 bbls. an hour.

February 4. Four wells, the Associated Producers No. 1 (McBride); the Boyd; Fisher No. 8 and the Mushrush, are making 4,244 barrels a day, while the remaining 48 wells in this field are doing all combined but 1,717 barrels. Fisher No. 4 shot with sixty quarts of nitro-glycerine. Responded at 6 o'clock at the rate of 140 bbls. an hour. At 9 p. m. was doing 100 bbls. an hour.

February 5. Fisher No. 4 making 98 bbls. an hour, while Fisher No. 8 declines 25 per cent.

February 6. Fisher No. 5 made 115 bbls. the past 24 hours, after pumping water for 5 weeks. Phillips No. 6, Dodds, 37 feet in sand showing small. Phillips No. 2, McCandless, 38 feet in sand and fills up 600 feet with oil. No. 3, 30 feet in sand with hole full of water.

February 12. Lockwood well nine bits in the sand and filled up 900 feet. Associated Producers Co. No. 5, 18 bits in sand and no oil.

February 14. Lockwood well 36 feet in sand and flowing 25 bbls. an hour. Mushrush No. 3 26 feet in sand and doing 86 bbls. an hour. The McBride well tubed and pumping 18 bbls. an hour.

February 16. Fisher No. 12, Marshall farm, through the sand. Oil boils over casing head when tools are pulled. McLaughlin farm well made 4 minute flow this afternoon.

February 17. Lockwood well through sand and shows drainage.

HOURLY GAUGES OF PRINCIPAL THORN CREEK WELLS.

DATE.	Fisher No. 8	Boyd	McBride.	Mush-rush.	Fisher No. 4	Mush-rush No. 3	Lock-wood.
Jan. 15, 1885	72	46	29	.	.	.	.
Jan. 20,	66	44	19	.	.	.	.
Jan. 26.	56	39	33	.	.	.	.
Jan. 29,	58	38	30	56	.	.	.
Jan. 31,	58	37	31	80	.	.	.
Feb. 2,	60	35	22	59	.	.	.
Feb. 5,	46	28	21	50	92	.	.
Feb. 7,	48	32	22	47	78	.	.
Feb. 10,	38	28	20	37	77	.	.
Feb. 13,	48	24	21	32	40	.	.
Feb. 14,	48	24	18	32	40	86	25
Feb. 16,	40	23	17	36	56	57	30
Feb. 17,	58	23	17	24	56	33	23

The scouts' gauges of the Thorn Creek field for each day of November, December and January were as follows:

	January.	December.	November.
1	8,050	7,850	9,364
2	7,000	6,225	8,849
3	6,664	6,968	8,218
4	6,225	6,691	8,977
5	6,225	5,989	8,248
6	5,662	6,319	7,144
7	5,672	6,106	6,982
8	5,382	5,768	6,888
9	5,670	5,756	7,046
10	5,602	5,676	7,043
11	5,684	8,952	6,418
12	5,628	7,689	6,439
13	5,346	14,264	7,046
14	5,350	11,200	10,486
15	5,050	10,972	15,445
16	5,324	10,217	13,436
17	5,518	11,080	11,674
18	5,220	11,259	11,035
19	4,700	9,715	9,977
20	4,826	8,532	10,221
21	4,593	7,500	12,651
22	5,125	7,016	10,681
23	4,735	7,140	10,500
24	4,618	6,402	9,225
25	5,015	6,300	9,989
26	5,100	7,140	8,808
27	4,900	8,892	9,188
28	4,815	8,000	8,818
29	5,953	7,512	8,280
30	6,668	6,721	7,980
31	6,950	8,350	. . .
Total	173,270	248,211	277,056
Daily average	5,589	8,807	9,235

The following is a complete list of the Thorn Creek wells, with the date when they began to produce, and their best daily output, up to the 14th of February.

Farm:	Owner.	Completed.	Best 1 hour's Gauge.	Best 24 hours' Production.	Pro. 24 hours, Feb. 14.
Bartley,	Phillips Bros.	No. 1, Aug. 29, '84	159	2,600	12
"	"	No. 2, Oct. 20, '84	120	2,500	39
"	"	No. 3, Oct. 19, '84	20	480	8
"	"	No. 4, Nov. 4, 84	.	18	0
"	"	No. 5, Nov. 20, '84	150	1,700	118
"	"	No. 6, Dec. 9, '84	.	60	4
"	"	No. 7, Dec. 15, '84	.	65	30
"	"	No. 8, Dec. 23, '84	.	320	122
"	"	No. 9, Dec. 13, '84	.	620	5
"	"	No. 10, Jan. 10, '85	13	312	70
"	"	No. 11, Jan. 25, '85	.	. . .	32
Dodds,	"	No. 1, Nov. 15, '84	.	360	25
"	"	No. 2, Dec. 24, '84	.	12	3
"	"	No. 3, Dec. 28, '84	.	15	0
"	"	No. 4, Jan. 12, '85	.	5	4
"	"	No. 5, Jan. 13, '85	.	10	8
"	"	No. 6, Feb. 10, '85	.	.	0
Patterson,	"	No. 1, Dec. 10, '84	.	20	12
McCandless,	Phillips Bros.	No. 2, Feb. 6, '85	.	. . .	0
"	"	No. 3, Feb. 7, '85	.	. . .	30
"	"	No. 4, Feb. 10, '85	.	. . .	74
Mushrush,	"	No. 1, Jan. 29, '85	110	2,000	768
Bartley,	Christie Bros.	No. 1, Oct. 11, '84	263	5,200	102
"	"	No 2, Nov. 9, '84	.	360	35
"	"	No. 3, Dec. 20, '84	.	30	0
"	"	No. 4, Nov. 18, '84	.	125	9
"	"	No. 6, Dec. 24, '84	.	20	8
"	"	No. 7, Jan. 15, '85	.	15	10
"	"	No. 8, Dec. 24, '84	.	50	35
Marshall,	Armstrong & Co,	No. 1, June 27, '84	.	160	4
"	"	No. 2, Oct. 29, 84.	360	7,000	0
"	Conners & Fishell,	No. 1, Oct. 19, '84	165	3,960	130
"	"	No. 2, Nov. 19, '84	120	1,968	132
"	Greenlee & Co,	No. 1, Nov. 15, '84	180	2,400	0
"	"	No. 2, Jan. 16, '85	.	30	0
"	Gibson & Co,	No. 1, Nov. 10, '84	70	600	0
"	"	No. 2, Nov. 24, '84	145	1,248	200
"	Boyd & Co,	No. 1, Dec. 10, '84	180	3,600	576
"	Lappe & Co,	No. 1, Jan. 27, '85	.	. . .	10
"	"	No. 2, Jan. 28, '85	.	. . .	12
"	Fisher Oil Co,	No. 1, Nov. 29, '84	60	1,440	86
"	"	No. 3, Nov. 14, '84	280	4,200	42
"	"	No. 4, Jan. 13, '85	140	2,200	1,056
"	"	No. 5, Jan. 11, '85	.	. . .	219
"	"	No. 6, Nov. 12, '84	130	3,120	135
"	"	No 8, Dec. 16, '84	150	3,120	792
Wallace,	"	No. 10, Oct. 15, '84	10	200	4
"	"	No. 11, Oct. 28, '84	40	750	35
"	"	No. 12, Nov. 6, '84	.	45	3
"	"	No. 14, Nov. 17, '84	.	172	97
"	"	No. 15, Dec. 5, '84	.	140	13
"	"	No. 16, Jan. 10, '85	.	80	50
"	"	No. 17, Feb. 10, '85	.	. . .	7
Henderson,	Johnson & Co,	No. 2, Oct. 3, '84	.	28	5
Kennedy,	Babbitt Bros.	No. 1, Jan. 5, '85	.	12	5
Scully,	Associated Producers	No. 1, Dec. 12, '84	308	4,800	528
Kennedy,	"	No. 2, Dec. 13, '84	.	200	23
Total 57 wells Feb. 14.					5,727

THE Clark, Reep & Sutton well on the McLaughlin farm Thorn Creek, has made about 20 barrels of oil up to date. It found only twelve feet of white sand, and is expected to make a small producer. It is 1,662 feet deep and found the sand at 1,618 feet.

OIL REGION CHRONOLOGY FOR JANUARY, 1885.

January 1. AGE oil report shows 72 wells completed during December; new production, 5,596; dry holes, 14; new rigs, 54; old rigs, 161; drilling wells, 101; total field operations, 316.

Boyd well doing 80 bbls per hour; Fisher No. 8, 90; McBride 48. Total Thorn Creek production, 8,050 barrels. Fisher No. 1 and Conners No. 2 stopped flowing. *Weekly Blizzard*, at Oil City, began to blow.

January 2. Thorn Creek production, 7,000 barrels. McBride well doing 37 bbls. per hour; Boyd 80 bbls; Fisher No. 8, 66 bbls. Annual election of officers of the Bradford Oil Exchange. C. L. Wheeler re-elected President for the seventh time.

January 3. Thorn Creek production, 6,664 barrels. The McBride doing 38 bbls. per hour; Boyd 65 bbls; Fisher No. 8, 75 bbls. Election of officers of Oil City Exchange. H. L. Foster re-elected President. W. L. Corbett, of Clarion, Clarion county, appointed President Judge of the Eighteenth Judicial district, vice J. B. Knox, deceased. Charles Thompson and James Simmons killed by the explosion of G. B. Dana's glycerine factory near Eldred. Casing drawn from the Watson deep well near Titusville.

January 5. The McBride doing 42 bbls. per hour; Fisher Fo. 8, 78 bbls. and Boyd 66 bbls. Thorn Creek production, 6,225 barrels. The Cogley Run Oil Co.'s wild cat well on Cogley Run in Clarion county reported shut down on top of sand with a showing of oil. Annual election of officers of Franklin Pipe Co., Limited. The Gantz well reported to have 1,700 feet of oil in the hole.

January 6. Meeting of Associated Producers in Producers' Exchange, Bradford. The shutdown movement discontinued. Thorn Creek production, 5,662 barrels. McBride well doing 33 bbls. per hour; Fisher No. 8, 72 bbls. and Boyd 1, 51 bbls., McBride flowing by heads. The Cogley Oil Co.'s well, Clarion county, 10 feet in sand, with 850 feet oil in hole. Election of officers of Titusville Oil Exchange. H. Y. Pickering elected President.

January 7. Thorn Creek gauge, 5,672 barrels. McBride well doing 33 bbls. per hour; Fisher No. 8, 73 bbls. and Boyd 52 barrels. Cogley Run well through sand.

January 8. Reed well on the Critchlow farm, west of Baldridge, through sand and dry. Thorn Creek production, 5,382 bbls. McBride well doing 30 bbls; Boyd 46 bbls. and Fisher No. 8 60 barrels an hour. Cogley Run well, Clarion county, tubed and producing at rate of ten barrels a day. Heavy vein of gas struck in a well at Kelly's Station, A. V. R. R., Armstrong county.

January 9. McBride well gauges 37 barrels per hour; Boyd 50 bbls. and Fisher No. 8, 80 bbls. McBride producing irregularly. Thorn Creek production, 5,670 barrels. Fisher No. 5, Marshall farm, through sand and will be pumped without shooting. House of John Berst in Erie shattered by an explosion of natural gas. Plumber Cody, when he recovers, will in future look for leaks without a light.

January 10 The title of the Marshall heirs' property in Thorn Creek owned by Fisher Bros. in dispute. Thorn Creek production, 5,602 barrels. McBride well, 33 bbls. an hour; Fisher No. 8, 80 bbls; Boyd 50 bbls.

January 11. H. S. Hicks, a former Bradford newspaper man, conspicuous as a bigamist in London, ejected from the American embassy. Fisher No. 4, Marshall farm, through the sand and to be pumped for a time without shooting.

January 12. The Gantz well at Little Washington made a flow. Public meeting of citizens of Bradford to demand a reduction in insurance rates. Thorn Creek production, 5,628 barrels. McBride well doing 29 bbls. per hour; Boyd 50 bbls. and Fisher No. 8, 78 bbls. The Syndicate Oil Co.'s well on the Gordon farm, Macksburg, showing for a good well.

January 13. Thorn Creek production, 5,346 barrels. McBride well, 30 bbls. an hour; Boyd 51 and Fisher No. 8, 68 bbls.

January 14. The Gantz well at Little Washington locked up and guarded. The Phillips well on the Leibler farm, northeast of the Wallace farm, Thorn Creek, through the sand and dry. Well located on the James Gordon farm west of Little Washington. Thorn Creek production, 5,350 barrels. Boyd well doing 44 bbls; Fisher No. 8, 73 and McBride 31 bbls. Greenlee No. 2 15 feet in sand and poor showing of oil. Annual meeting of Reno Oil Co. F. W. Mitchell, C. Heydrick, J. H. Osmer, C. V. Culver, R. F. Brooke and W. J. Young elected directors.

January 15. C. K. Book inaugurates a boom for supplying the needy poor of Bradford with flour and potatoes. Thorn Creek production, 5,050 barrels. The firm of Cisco & Co., of New York, reported to have failed. The failure of Oliver Bros. & Phillips, iron manufacturers, of Pittsburg, announced. Lappe well No. 2 shot with a 60-quart torpedo, but with no response. Boyd well doing 40 bbls. per hour; McBride 29 bbls. The McLaughlin farm well, one and one-half miles southeast of the McBride, "not at home to visitors."

January 16. New York market weak on account of failure of Cisco & Co. McBride well doing 29 bbls; Boyd No. 1, 47 and Fisher No. 8, 66 bbls. The Conners well on the Fisher farm, Thorn Creek, drilling in slate and believed to be dry. Armstrong No. 2 stopped for some time, started again at 39 barrels per hour. Production of Thorn Creek, 5,324 barrels. Annual meeting of Bradford Producers' Exchange directors for election of officers. David Kirk elected President.

January 17. Severe windstorm, blowing down hundreds of derricks throughout the oil regions. McBride well doing 28 barrels per hour; Fisher

No. 8, 62 bbls; Boyd 40 bbls; Armstrong No. 1 29 bbls. Thorn Creek production, 3,315 bbls.

January 18. Fisher No. 4 began pumping a little oil with the water.

January 19. Canadian well No. 18, Ballowin, drilled into the sand and reported large. McBride well doing 19 bbls an hour; Fisher No. 8, 60 bbls; Boyd 35 bbls; Armstrong No. 2, 17 bbls. Thorn Creek production, 4,700 barrels. Greenlee No. 1 shot but made no response after the first shot.

January 20. Conners well on Fisher farm, south of Thorn Creek, abandoned at a depth of 1,170 feet. McBride well doing 14 bbls. per hour. Boyd 40 bbls; Fisher No. 8, 60 bbls; Armstrong No. 1 16 bbls. Thorn Creek production, 4,100 barrels. Gauge of Canadian No. 18, Ballowin, 200 barrels last 12 hours. The Jamestown Fr. Savings Bank closed its doors to allow the cashier, J. B. Warren, a leave of absence to attend the funeral at Meadville.

January 21. The Tidewater Pipe Co. held its annual election at Titusville and elected the old board of directors. McBride well going on 21 hours, Armstrong No. 2, 15; Fisher No. 8, 40 and Boyd 35 bbls per hour. Thorn Creek production, 4,250 barrels. The sands at Thorn Creek termed as unprofitable and established headquarters at McBride Corp. The Gulf well southwest of Ballowin shot down and quabbed.

January 22. Thorn Creek gauge, 3,100 bbls. McBride well doing 22 bbls per hour; Boyd 40 bbls; Fisher No. 1 52 bbls and Armstrong No. 2 17 bbls. The "Anti-Lease" bill introduced in the Legislature by Representative Bates of Titusville.

January 23. Thorn Creek gauge, 4,715 bbls. The McBride doing 21 bbls an hour. Fisher No. 1 60 bbls; Boyd 34 bbls and Armstrong No. 2 17 bbls. The Ohio Transit Company at Mackeyville purchased of the National Transit Co. 4 tanks of 55 barrels in the place of 4 of the Bradford Bend makes 110 useless thousands more.

January 24. Phillips well No. 1 on Mushrush farm, south side. Thorn Creek gauge, 4,611 barrels. McBride doing 21 bbls.

January 25. McBride well shut in and its production increased when the sump holes were opened.

January 26. Thorn Creek gauge, 3,100 bbls. McBride well 19; Fisher No. 8 36, Boyd 30 and Armstrong No. 2 15 barrels an hour. Gerard poured at the Clark, Perry & Sawyer well on the McLaughlin farm, one and one-half miles southeast of the McBride. The Gamo well at Washington, Pa., made a 30-barrel flow after being shot in the four weeks. E. H. Bingham, St. Managing agent of the old Oil Creek Railroad at Titusville and of the P. T. & B. R. R., died in that city aged seventy-eight. Lappe well No. 1 began pumping oil for the first time.

January 27. Thorn Creek production, 4,900 barrels. McBride doing 20; Fisher No. 8, 32; Boyd 30 and Armstrong No. 2 16 bbls an hour.

The Associated Producers Company held their regular meeting at Bradford for election of officers and re-elected the old Board. The Mushrush farm well struck "lower pay streak," and made 1,000 barrels in the first 12 hours. McKelvy well on the Mabray farm, southwest of Baldridge, through sand and dry. Lappe No. 1 began to show oil after pumping water over a month. Representative Robertson, of ——— county, introduced a bill in the Legislature prohibiting dealing in margins, under a fine of $500 and one year's imprisonment. The Worcester Mass. authorities discriminate against the consumption of oil by sentencing a "Dr." Franklin Pierce to the House of Correction for two years for prescribing, with fatal results, petroleum baths for a female patient.

January 28. Thorn Creek production, 4,815 barrels. McBride doing 18; Boyd, 36; Armstrong No. 2, 11 and Fisher No. 8, 28 bbls an hour. The Phillips well on the Mushrush began producing largely. McLaughlin farm well said to be transferred on "mystery manipulations."

January 29. All private telephones connecting the New York Stock Exchange with the Petroleum Exchange removed. Gold and stock indicators removed from the Petroleum Exchange. Members of Stock Exchange forbidden to communicate with the Petroleum Exchange under penalty of expulsion. Meeting in Bradford to arrange for grand charity ball. Thorn Creek production, 3,915 barrels. McBride doing 30; Boyd, 35. Fisher No. 8, 31 and Mushrush No. 1, 31 bbls. an hour by morning gauge. Mushrush in the afternoon flowed at rate of 110 bbls. an hour thus being her best gauge.

January 30. Phillips Bros. well on Mushrush farm doing 70 barrels per hour, McBride, 28 bbls. The Boyd well on the Mahang farm drilling below the sand and dry. Thorn Creek production, 6,661 barrels. The McLaughlin farm well resumed drilling after having been shut down since Tuesday noon of the 27th. Through the sand in the Mushrush.

January 31. Thorn Creek gauge, 6,910 bbls. McBride 21 and Mushrush 81 bbls. an hour. Explosion of natural gas in Pittsburg, occasioned by a leak in the mains of the Fuel Gas Company. Seventeen persons injured. The McLaughlin farm well reported through sand and dry, but still guarded.

The Baku Batoum railroad, across the Caucasus, from the Caspian to the Black sea, is now being equipped with tank cars to accommodate the bulk masters of petroleum. The freight per ton will not exceed 20 marks, $4.76, which will make the export of Russian oil by that route profitable. The best quality of lubricating oils will never be obtainable from Russia, where they are still very dear and unable to make headway against the American product.

Maps of the Oil Regions at the Age office.

JANUARY PRODUCTION REPORT.

Reports from 6,011 Bradford wells, showed an average increase of 3.3 barrels to the well, during January.

Time.	No. Wells.	Gross Stocks.	Average per Well.
January 1, 1885	6,008	340,992	56.8
February 1, 1885	6,011	366,784	60.1
Increase,	3	25,792	3.3

The number of wells in the Bradford field connected with the pipe lines on the 1st of February, is estimated at 13,350. Estimating the entire Bradford region on the basis of 3.3 barrels increase, the total increase in stocks at wells during January, was 44,055 barrels, a daily average of 1,421 barrels. Adding the increase in stocks to the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for January is as follows:

	Barrels.
Average Daily Pipe Line Runs	27,854
Average Daily increase of Stocks at Wells	1421
Bradford's Jan. production, est	29,275
do Dec. do do	30,116
Average daily decrease	841

This represents an average decrease of 841 barrels a day as compared with the December estimate.

THE ALLEGANY FIELD.

The stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per Well.
January 1, 1885	1,191	51,910	42.6
February 1, 1885	1,192	59,659	49.6
Increase	1	8,129	6.7

The wells from which reports were received, increased their stocks 6.7 barrels. Assuming that they represent a fair average for the 3785 wells in the entire field on the first of February, the total stocks in the field were increased during January by 25,359 barrels. Or stocks at wells in Allegany field were increased at the rate of 818 barrels a day during the past month. The pipe line runs were 7,442 barrels a day. Adding the increase of stocks to the pipe line runs, Allegany's daily average production for January is 8,260 barrels, an increase of 67 barrels a day over the estimate for December.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells. Jan. 1.	No. Wells. Feb. 1.	Average per Well. Jan. 1.	Average per Well Feb. 1.
Clarendon & Tiona	242	242	51	52
Cherry Grove	49	49	100	84
Cooper District	175	175	91	87
Lower Country	101	101	110	101
Miscellaneous	241	241	751	739

Accepting the outside runs, which are partially made up of the Wardwell and Baldridge runs, as representing the production, an estimate on the yield of the field for January and December would be as follows:

Field.	Jan. Barrels.	Dec. Barrels.
Allegany	8,260	8,193
Bradford	29,275	29,815
Outside runs	18,545	22,988
Total	55,820	60,876

The above figures show a decrease in the production of 5,098 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The Runs from the Baldridge and Thorn Creek district decreased at the rate of 2551 barrels a day in January. During the same period the Cherry Grove, Cooper and Balltown runs declined 458 barrels per diem.

The following table shows the comparative production for 1883 and 1884. No production reports of the field were published during the first six months of 1883, and the pipe line runs of Bradford and Allegany, are considered sufficient in the absence of more reliable data:

	Bradford		Allegany		Outside Runs		Total Prod.	
	1883.	1884.	1883.	1884.	1883.	1884.	1883.	1884.
Jan	19,349	29,847	11,203	7,706	18,140	18,272	48,692	55,825
Feb	19,048	28,281	11,300	7,854	18,508	18,573	48,856	54,708
Mar	19,001	27,784	11,328	8,021	19,774	21,873	50,144	57,678
April	19,112	28,320	11,208	8,142	19,912	20,555	50,232	56,207
May	20,011	28,830	11,347	8,191	19,843	18,611	51,201	56,445
June	20,135	28,577	11,108	8,169	19,677	18,020	50,920	54,766
July	20,061	28,512	11,275	8,345	20,917	18,758	52,253	55,615
Aug.	21,151	25,281	11,384	8,304	20,870	18,269	53,405	51,854
Sept.	21,172	24,965	9,611	8,213	20,151	18,167	50,934	51,345
Oct.	21,148	25,842	9,456	8,180	20,172	18,438	50,776	52,460
Nov	24,109	26,776	8,822	8,173	19,857	18,436	52,788	53,385
Dec.	24,837	25,706	8,193	8,260	22,815	18,545	55,845	52,511
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
Jan	28,915	27,806	8,260	11,264	18,545	17,811	55,720	56,881

PIPE LINE RUNS BY DISTRICTS.

The difference between the Bradford and Allegany runs and those of the entire region make up what is termed the outside runs. Taken for a number of consecutive months these show the production of all sections of the oil regions outside of Bradford and Allegany. The following table shows the average daily runs for Allegany, Bradford, and the outside region from the 1st of January, exclusive of oil which was received in iron tanks and had previously been counted as runs:

1883-4. MONTH.	RUNS. BRADFORD	RUNS. ALLEGANY.	RUNS. OUTSIDE	TOTAL DAILY RUNS
January	56,847	14,206	14,272	85,325
February	59,281	15,454	15,473	89,208
March	61,184	15,879	14,631	91,694
April	58,872	15,643	15,685	90,200
May	59,939	15,795	15,711	91,445
June	58,824	15,429	15,592	89,845
July	59,489	15,561	16,758	91,808
August	57,165	15,745	15,966	88,876
September	58,864	15,358	15,958	90,180
October	58,654	15,175	15,775	89,604
November	54,672	14,332	15,435	84,441
December	51,050	13,752	15,776	80,578
January, 1884	51,000	13,028	15,240	79,268
February, 1884	53,087	13,025	15,561	81,673
March, 1884	53,249	13,170	15,734	82,153
April, 1884	54,570	13,264	15,562	83,396
May, 1884	54,926	13,338	15,349	83,613
June, 1884	55,091	13,619	15,377	84,087
July, 1884	54,778	13,514	16,111	84,403
August, 1884	53,782	13,534	15,580	82,896
September, 1884	53,449	9,986	15,574	79,009
October, 1884	51,500	9,862	15,764	77,126
November, 1884	50,562	8,540	15,557	74,659
December, 1884	50,650	8,193	15,748	74,591
January, 1885	51,054	7,442	15,594	74,090

TORPEDOES AND PURE NITRO-GLYCERINE

C. E. TUCKER

Will continue to furnish the producers of the northern oil field with the

BEST QUALITY OF NITRO-GLYCERINE

That can be manufactured. My motto of FULL WEIGHT and ABSOLUTE PURITY means something, as the producer has learned to his joy, and my patronage was never larger or more satisfactory. Nothing but PURE NITRO-GLYCERINE will be used.

SKILL AND PROMPTNESS A SPECIALTY.

OFFICES:

Over 60 Main Street Bradford, Pa., Opp. United Pipe Line Office

and at the Newton House, Bolivar, N. Y.

BOVAIRD & SEYFANG,
Leading Drilling Tool Manufacturers,

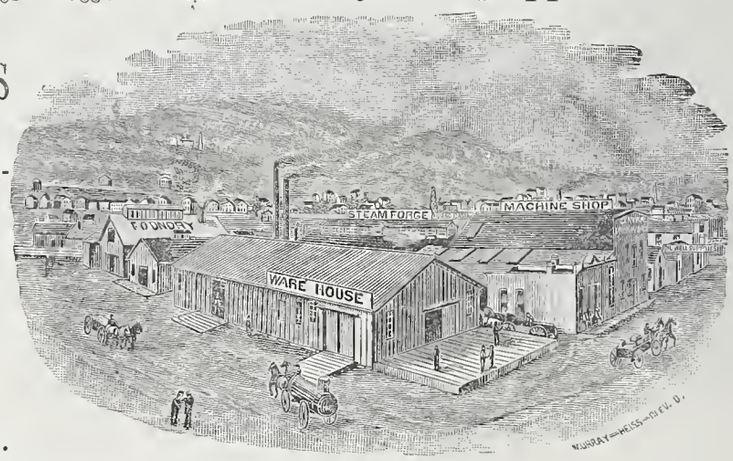
AND DEALERS IN

New an Second-Hand Oil Well Machinery and Supplies.

Particular attention given to outside orders for

OIL OR ARTESIAN WELL SUPPLIES

All Our Second-Hand Machinery Offered at Exceedingly Low Prices, Thoroughly Rebuilt an Guaranteed.



Correspondence Solicited.

BOVAIRD & SEYFANG,

Davis Street, BRADFORD, PA.

PETROLEUM REAL ESTATE CO.

C. D. ANGELL,

OFFICE: 81 MAIN ST., BRADFORD, PA.

Buy, sell and lease all kinds of Oil Lands and City Property, Negotiate Contracts and do a General Commission Business. Information carefully given. Address Lock Box 1275

JAMES C. BOYCE,

ATTORNEY-AT-LAW,

Solicitor of Patents and Attorney in Patent Causes.

ROOM NO. 3,

OVER OIL WELL SUPPLY COMPANY, LIMITED,

Corner Main and Webster Streets, BRADFORD, PA.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., MARCH, 1885. No. 2

THE WASHINGTON COUNTY TEST WELLS.

The county of Washington, with Greene, its neighbor on the south, occupies the southwest corner of the Keystone state. It is bounded on the east by the Monongahela river, and on the west by the pan-handle portion of West Virginia. Beaver and Allegheny counties are on its northern border while Westmoreland and Fayette, lie contiguous on the east. It covers an area of 890 square miles and in 1880 had a population of 55,418.

The surface of the county is rolling, and there is an absence of rugged hills, except in the southwestern portion.

The valleys made by the various streams, are for the most part broad, and those along Chartiers, Raccoon and Buffalo creeks, possess elements of the beautiful and picturesque. The outlines of the hills are soft and round and the land capable of considerable cultivation.

The county has long been noted for the superior quality of the wool it produces, and sheep raising is the principal employment of its agricultural population.

Its natural products are bituminous coal, limestone and natural gas. Washington, the county seat, is about twenty-five miles south of Pittsburgh, and has a population of 4,500.

The northern part of Washington county has excellent railroad facilities in the Pan-handle road, which sends off a branch from Birmingham, up the Monongahela river for nearly thirty miles, and another from Mansfield, up Chartier's creek to Washington, brings the latter place in direct communication with Pittsburgh. The Hempfield railroad, operated by the B. & O. R. R., connects Washington with Wheeling, West Virginia, and opens up the western part of the county.

The oil fever spread to Washington county within a few years after Col. Drake's success at Titusville. Companies were formed to bore for oil as long ago as 1861, and numerous wells have been put down at various times. The result of these tests has been to develop a large amount of gas territory, but up to the finding of the Gantz well, on the last day of December, 1884, no petroleum had been discovered within the borders of Washington county. A brief history of this well is recorded in the February AGE. The well was the result of a search after gas, by the Citizen's Natural Gas Company, of Washington, and is located on the Gantz mill property within the borough limits. It was rigged up to pump, on the 11th of February, and according to last reports was pumping from 20 to 25 barrels a day of amber colored oil. The record of this well, according to the measurements of the drillers is tabulated as follows:

RECORD OF GANTZ WELL NEAR WASHINGTON.

	Feet.
Conductor	32
Loam	10
Limestone	20
Coal	4
Limestone	20
Slate and Shells	200
Hard Sand	20
Slate	40
Hard Sand	25
Slate and Shells	4
Soft Sand	5
Slate	1
Coal, (Washington Vein)	5
Soft Sand	10
Slate	12
Hard Shell	2
Slate	10
Hard Shell	1
Slate	30
Sand	10
Slate	51
Hard Sand	80
Slate	10
Limestone	5
Slate	15
Redrock, (caves when softened)	60
Slates and Shells	40
Redrock, (second cave)	25
Slate	32
Redrock	25
White sand	20
Slate and Shell	100
Gray Sand	100
Slate and Coal mixed, (Pittsburgh Vein)	12
Slate and Shells	60
Sand	20
Slate and Shells	100
Hard sand, (Salt water in bottom)	57
Slate, (cased in at 1246)	20
Sand	10
Slate and Shells	15
Hard sand	12
Sand, (considerabie gas)	10
Slate	10
Hard sand	3
Slate	77
Limestone, (lower)	30
Hard White sand	90
Soft Sand	6
Hard White sand	8
White soft sand	40
Close Gray sand	20
White hard sand (soft streaks in it)	140
Hard sand	16
Slate	25
White Pebble sand	40
Slate and hard shells	100
Hard sand	5
Hard and soft sand	40
Soft sand	30
Hard sand	45
Slate and Shells	40
Hard Pebble sand	8
Slate	10
Black rotten sand	10
Slate	6
Red Coffee Sand	8
Slate	18
Dark Pebble sand, (oil and gas)	6
Dark sand mixed with slate	8
Red sand (principal oil bearing)	8
Total Depth as shown by record	2,187

The red sand was similar to that found at lower Sheffield. The dip of the rock from the Hess well to the Gantz is 65 feet. The distance is one mile.

According to Mr. Michael Allunay, an experienced oil refiner of Pittsburgh, the specific gravity of the oil, is from 55 to 57 degrees, which is exceedingly light for practical refining purposes.

The first company formed to search for oil in Washington county, was organized in 1861, and known as the Washington County Eureka Oil Company. Nothing practical was accomplished until 1865, when the company was reorganized, an office established at Philadelphia, and a glowing prospectus issued. The capital stock issued was placed at $300,000, with 150,000 shares at $2.00 each.

The officers of the company were as follows: President, M. M. Sheldrake, Delaware county; Vice-President, Jesse Hcok, a former president of the Farmers' and Drovers' Bank of Waynesburg; Secretary, W. W. Sharp, late of Amity, now deceased; Treasurer, W. H. D. Serrill, Delaware county; Clerk, Colonel William H. Lynch, Philadelphia. The directors were: Colonel P. Wise, Lycoming county; Captain M. S. Kingland, Greene county, and the officers of the organization. The office of the company was at 429 Walnut street, Philadelphia. A circular issued by the company contained the following information:

"The company is permanently organized for the purpose of extending the developments already made in the rich valleys of the Monongahela. The principal scene of its operations will be on Ten Mile Creek, Washington county, Pa., which drains the first valley north of Dunkard, in Greene county. The company now controls, by purchases and long leases, about twelve hundred acres of lands, most of which are contiguous and all comprised within an area of six miles, but they are constantly adding to their territory. On our lands on Ten Mile Creek we have the 'testimony of the rock,' together with burning oil springs and the constant emitting of gas from nature's grand under-ground laboratory, and other surface indications that are only found where oil abounds.

"A shaft has been sunk on the Mannon farm to the depth of over three hundred feet, and the company has thus far been rewarded by the discovery of a fine vein of coal at a depth of thirty feet, and at a depth of 280 feet a vein of oil was tapped, but which has not been tested by pumping. Oil, 'black gas' and salt are now mingled with the water in the well; the gas is escaping in such volume as to render it unsafe to approach with a fire or light, for fear of igniting the premises (an event which has already once occurred)."

The well was later drilled to a depth of 900 feet and finally abandoned. Several other wells in different sections of the country were drilled about the same time, but to no great depth. The leases on these properties ranged from twenty to thirty years.

The Niagara Oil Company, of NewYork, commenced leasing lands in Washington county in 1880. The first well was commenced in May 1881. It was located on the Alexander McGugan farm in Mount Pleasant township, six miles south of Burgettstown. When a depth of a thousand feet had been reached the tools became immovable and the well had to be abandoned. A second well was started immediately, within a few hundred feet of the first, and resulted in the famous McGugan gas well, which is still the largest ever struck in the county. This celebrated well is 2287 feet deep. Salt water was struck at 1600 feet, and the well now produces about six barrels of the briny fluid per diem. An attempt was made to shut off the salt water with 3¼ inch casing but it did not succeed. The gas comes from this well with such force, that it flames 150 feet from the end of the pipe. It is nine miles northwest of the Gantz well.

The following is the drilling record of this well, from the memoranda of Mr. Fred Crocker, the contractor:

	Depth.
Vein of Coal 3 to 5 feet thick	180
do 10 to 15 feet thick	255
Red rock	470
Cased, first time, 5⅝ inch	542
Grey Limestone	725
Sand	30
First Sand	762
Bottom First Sand	802
Cased, 4¼ inch Casing	795
Second Sand	865
Through Second Sand	900
Brown Sand	920
Shell	982
Third Sand	988
Gas Vein	998
Bottom Third Sand	1028
Fourth Sand (Black)	1100
Through Fourth Sand	1155
Fifth Sand	1266
Through Fifth Sand	1350
Slate, 15 feet	
Sixth Sand	1365
Crevice . . . . . 1312 feet to	1446
Seventh Sand	1578
Through Seventh Sand	1588
Eighth Sand	1850
Red rock	1965
Soap stone	1995
Ninth Sand	2035
Gas Vein, large	2287

The pressure of the gas was so strong that it forced the tools out of the hole and thirty feet above the top of the derrick. It was estimated to be at least 800 pounds to the square inch.

The Buchanan well on the Buchanan farm, in

Hopewell township, is the deepest well in the United States. It was drilled 4,300 feet, where it is claimed a red sand was struck that contained some oil. The second bit was run about twenty minutes. In pulling the tools, when 2000 feet from the bottom, the cable broke. Another string of tools was lost, in fishing for the first, and this hole is now effectually plugged with about two tons of iron and steel. It was put down by the Niagara Oil Company, and is three miles west of the McGugan gas well.

This well was likewise drilled by Mr. Crocker, who furnished the following valuable data :

	Depth.
Coal	278
Red rock	450
Brown Sand	617
Grey Limestone	675
Sand	686
First Sand	715
Cased	762
Second Sand	913
Coal blossom	1190
Through thick second sand	1427
Sand	1627
Sand	1910
Red rock	2000
Sand and gas	2090
Sand and oil, gas with little oil	2260
Red rock	2492
Brown Sand	2825
Sand	3055
Oil Sand and Shell	3600
Sand	3750
Red rock	3960
Soap stone	4010
Sand	4160
Bradford Sand	4303

The Emery well, drilled by this same company is one mile west of Hickory village, and a mile and a half north and east of the McGugan gasser. It is 2,200 feet deep, and obtains a good supply of gas from the same sand that is found in the Gantz well.

In the summer of 1884, the Niagara Oil Co. completed a well on the Scott farm, one mile north of Venice, in Cecil township. About twenty feet of the Gantz sand,was found at a depth of 1,980 feet. It contained a small showing of gas. The well was drilled 2,260 feet. Another sand was struck at 2,211 feet, and a copious supply of salt water. There was a small coloring of oil, with the salt water. At the present time, the well flows salt water with the gas. This company has drilled five shallow gas wells, about Hickory, which vary in depths from 1,000 to 1,200 feet. They are all good gassers, and their product is piped to Pittsburgh. The Rush well, six miles south-west of the McGugan gasser and about eight miles west of the Gantz, was drilled to a depth of 3,300 feet, by the Niagara Oil Co. and abandoned. It contained neither gas nor oil.

At the Reform School, north-east of Canonsburg, two shallow wells were drilled, a long time ago. One is 700 and the other 1,200 feet deep. Both are dry. The Canonsburg gas well was drilled in the summer of 1884. Gas was found at 1,800 feet, and the well drilled a total depth of 1,840 feet. It was sunk to supply the Canonsburg Iron Mill with gas, but not enough was found to run the mill.

A company known as the People's Heat and Light Company was organized at Washington last year. On the 18th of March, 1884, a well was started on the Hess farm, a mile north-west of Washington, and completed on the 30th of April. The gas sand was found at a depth of 2,060 feet, and the well completed at a depth of 2,068 feet. It was cased at 516 feet, found the coal formation at 815 and the lower limestone at 1,320 feet. It is a fair gas well, but not so large as the two later wells of the company. The Hervey farm well, a mile north of the Hess, was finished in the summer of 1884. It found the sand at 1,980 and the drill was stopped after penetrating it eight feet. Eight hundred feet of casing was used It is a very strong gasser. The last well sunk by this company was completed in January. It is located on the Hough farm, 40 rods south-west of the Hervey. The gas sand was struck at 1,992 feet, and the well completed after penetrating it 18 feet, making the total depth 2,010 feet. A cave rock was found at 600 feet, and the well cased at 800 feet. It is a good gas well.

A well has been started near Clayville, Washington county, by citizens of that place. The mouth of the well is 1,138 feet above the sea level. It was cased at 1,300 feet and struck a heavy vein of magnesia mineral water at 1,500 feet. At last accounts, the casing had been pulled and the well was being reamed down to shut off the surplus fluid.

CHESTER COUNTY AS A PROSPECTIVE OIL FIELD.

The following letter from the noted geologist, Prof. Lesley, to the editor of the Philadelphia *Record*, contains much valuable information on a topic of interest to oil men :

The excitement which prevails in Chester county, over a reported discovery of petroleum, calls for some plain short explanation of the reasons why no experienced geologist can believe for a moment in the possibility of getting oil from the rocks of the North Valley Hill; first, because those rocks are different in age, character and condition from those of our oil regions ; and secondly, because even if their age and chracter had been originally the same, their present condition would make it impossible for

them to hold petroleum. I may most easily make this appear by a short statement of where the outcrops of the oil sand-rocks run through the State. The Venango oil sands belong to the top of the Chemung formation, the Warren sands several hundred feet lower, and the Bradford sands about the middle of the formation, or 1000 feet below the Venango sands. There is a gentle rise of the formation northward, which carries into the air the Bradford sands along a line stretching from Lake Erie to the Hudson River at Catskill. Southward they lie deeply buried beneath the whole bituminous area of Western Pennsylvania, but come again to the surface along the foot hills of the Allegheny Mountains, from Cumberland, in Maryland, to Altoona, from Altoona to Lock Haven, Williamsport and Muncy, and so on east nearly to the North Branch of the Susquehanna, in Luzerne county. From here to the Hudson River they stay under ground, but they outcrop in many of the valleys of Middle Pennsylvania. The Juniata River cuts across their upturned edges many times in Huntingdon, Mifflin, Juniata and Perry counties; so does the Susquehanna River in Northumberland and Dauphin counties. They fill the Wapwallopen Valley, encircle Montour's ridge in a beautiful pointed ellipse, make two outcrops at Halifax, and finally run the whole length of the Orwigsburg Valley, from above Harrisburg, eastward, past Pinegrove, Orwigsburg, Weissport, Stroudsburg and Milford, to the Delaware River, aboue Port Jervis, and so on, along the foot of the Catskill Mountains, to Rondout, on the Hudson River.

Now, there is no mistaking this Chemung formation (with the oil sands in it) anywhere where it comes to the surface. The Reports of the Geological Survey are full of descriptions of its shales, sandstones and gravel (or conglomerate) layers, with every particular of color, grain and fossil shells at hundreds of places where it has been examined. The important point, however, is that after rising southward for the last time into the air along the Orwigsburg and Stroudsburg Valley, behind the Blue Mountain, this formation *never comes down again to the present surface* in Southern and Southeastern Pennsylvania. The great slate and limestone formation of the Lehigh (or Lebanon or Cumberland) valley are far underneath it; and these overlie the older slates and conglomerates of the North Valley Hill in Chester county, as any one can see; for the North Valley Hill rocks go under the limestone at Parksburg, Downingtown and Norristown; and this limestone is the same as the limestone at Harrisburg, Reading and Allentown.

It is, therefore, impossible to find the oil rocks anywhere in Chester county. But this is not all. No petroleum has ever been seen or smelled along all the outcrops of the Chemung formation in Middle Pennsylvania. If it ever held oil the oil has entirely escaped into the air; which it had a good chance to do when the rocks were once upturned at all angles and crushed and broken, as we see them to be in every county. They retain their oil only where they lie in their original flat and deeply buried position in Northwestern Pennsylvania. Let any one examine the rocks along the North Valley Hill, lying as they do *under* the much-broken limestone and *over* the crystalline rocks of the Brandywine country, and ask himself the plain question: Could ever the true oil rocks, if they were there, keep for ages in them any of the oil which they might have originally possessed? But the question is unnecessary. There are no oil rocks (either with or without their oil) anywhere in Chester county.

THE OIL BROKER MUST GO TO NEW YORK.

FULL TEXT OF HOUSE BILL NO. 33.

The following is a copy of an act introduced in the Legislature regulating contracts for the purchase and sale of stocks, certificates, receipts or other evidences of property:

SECTION 1. Be it enacted, etc., that it shall be the duty of every person, partnership and corporation making any contract for the sale of any shares of the capital stock of any corporation or of any property delivery whereof is to be made by delivery of written or printed or partly written and partly printed certificates, receipts, acceptances or other evidences of title to or liability for the delivery of the property therein specified, made or issued by the person, partnership or corporation having the custody, possession or control of such property to deliver at the time or during the day of the making of such contract, such certificates of shares, receipts, acceptances or other evidences of title to or liability for the delivery of the property therein specified, or furnish the buyer with the serial numbers and dates of such certificates of shares, receipts, acceptances or other evidences of title to or liability for the delivery of the property therein specified respecting which such

contract of sale is made and which are to be delivered in fulfillment of such contract. If no time is specified in such contract for the delivery of the thing sold the time for making such delivery or for furnishing the serial numbers and dates shall be at the time or during the day of the making of the contract, provided that if by the terms of any written or printed or partly written and partly printed contract of sale delivery of the thing sold and respecting which such contract is made is fixed for some future time, the time for making delivery of the same or furnishing the buyer with the numbers and dates as aforesaid, shall be at the maturity of the contract, but not later.

SEC. 2. Neither party to any contract of sale falling within the provisions of this act shall have power to waive any of the provisions hereof. No evidence of any such waiver shall be admitted upon any hearing or trial in any suit or proceeding upon any such contract or in which any such contract is in any manner involved and no rule, by-law, resolution, or other action of any board, partnership, corporation or other association shall waive or nullify any of the provisions of this act.

SEC. 3. If any person, partnership or corporation making any contract of sale such as is specified in the first section of this act shall fail to comply with the requirements of this act they shall thereupon become liable to pay to the buyer all loss, damage and injury sustained or suffered by said buyer by reason of such default. And if any person, partnership or corporation making any contract of purchase such as is specified in the first section of this act shall fail or refuse to receive the certificates of shares, receipts, acceptances or other evidences of title to or liability for the property therein specified bought by such contract when tendered in fulfillment of the same, they shall become liable to pay the seller all loss damage and injury sustained by said seller by reason of such default. Any loss, damage or injury sustained or suffered by either party to any contract as aforesaid by reason of the failure, refusal or default of the other party or parties to the same may be recovered by such injured party in an action at law to be sued for in any court in this Commonwealth having jurisdiction of actions for breach of contract.

SEC. 4. If any person or persons, member or members of any co-partnership or association, officer or officers of any corporation who shall have made by themselves or agents, on their own behalf or on behalf of any co-partnership association or corporation, any contract of sale such as is mentioned and specified in the first section of this act, shall re-sell, re-pledge or make any new contract for the sale or pledge of any certificate of shares, receipts, acceptances or other evidences of title to or liability for the delivery of the property therein specified such as are mentioned and described in the first section of this act, while any previous contract for the sale or pledge of the same is in force or unexecuted, or shall in furnishing the dates and numbers of the same, as directed in the first section of this act, knowingly give or use any false or fraudulent date or number, such person or persons, member or members of any co-partnership or association, officer or officers of any corporation shall be guilty of a misdemeanor and on conviction shall be sentenced for every such offence to pay a fine not exceeding $500.00 and not less than $100.00, or be imprisoned for any term not exceeding six months or both or either, at the discretion of the court.

OIL REGION CHRONOLOGY FOR FEBRUARY, 1885.

February 1. AGE oil report shows 79 wells completed in January; new production, 2756; dry holes, 19; new rigs, 69; old rigs, 156; wells drilling, 113; total field operations, 338. The ground hog decides that there is a good deal of the other end of the winter still left for us.

February 2. Gantz well at Little Washington makes a flow of 25 barrels.

The relief committee establish headquarters in the Bradford Producers exchange, and are busied all day distributing the provisions and clothing, so liberally donated by Bradford citizens. Citizens of the 12th, 13th, 15th, 16th and 17th wards, Pittsburg, pass resolutions against natural gas mains now down and demand that they be replaced by safe ones. Penn Fuel Gas Co. decide to lay low pressure pipes through the city. Present pressure 125 lbs. to the square inch.

February 3. Tickets for the Bradford Charity ball on sale.

February 4. John S. Hasson, of Franklin, dies at the age of 93 years. Father of William, Hugh, John, James and Samuel Hasson.

February 5. Robertson bill before the Harrisburg legislature to prevent dealings in margins, begins to attract some attention from the oil trade. Committee of councilmen examine the Bradford water works; everything in a satisfactory condition for good service, but con-

tractors still have some work to do, to fulfill all conditions of contract.

February 6. Gantz well at Little Washington shot at 5 p. m. Filled up 1800 feet with oil.

February 7. Oil advances from 69⅜ to 73⅞ and closes at 71¾. Rally manipulated by New York. Thorn Creek production, 7096 barrels, a decline of 160 barrels from preceding day.

February 8. Collision on the Pennsylvania railroad bridge over the Raritan River at New Brunswick, N. J., between two freight trains. Oil tank cars explode and burn, and their blazing contents deluge the bridge and run down the streets into the Raritan canal, where it spread over the ice and fires Janeway & Co., paper manufacturers, the Consolidated Fruit Jars Co.'s works and several buildings. Loss, $700,000. Two men perish.

February 9. The Union Glass Co., of Olean, makes an assignment, the heaviest creditor being the Keystone Gas Co. Market melts away gradually from the point won by Saturday's rally. Death of Thomas B. Porteous at Oil City, a member of the oil exchange and prominent business man. Age 62 years.

February 10. Business is suspended at the Producers exchange and the Arbitration committee expel seven members. The Minnesota cold wave, accompanied by a biting wind, arrived this evening. Thorn Creek production off 988 barrels. Passenger train on the P. & W. R. R. ditched near St. Joe, and both coaches turned upside down. No one killed. Market again drops below 70 cents.

February 11. Thorn Creek gauge, 5648 barrels. Mercury 21 degrees below zero. Dan'l McLaughlin, of Butler, refuses to act unneighborly in putting up notices on his farm, to bar visitors from the Reep & Sutton mystery.

February 12. Charity Ball a great success and realizes $1383 for the poor of Bradford. Break down at the Murphy wildcat on the Mangel farm, Thorn Creek. Thorn Creek gauge, 5875 barrels. Court at Franklin decrees that the United pipe line may sell certain oils in the line, to pay charges on the same, after properly advertising their intent to do so.

February 13. Market weaker in anticipation of large wells coming in at Thorn Creek.

February 14. M. W. Quick addressed the Oil City exchange, endeavoring to show that the bill now before the legislature in regard to the transaction of business in the oil exchanges was in reality beneficial to the trade. President Foster, Wright, Naly, Dow and Kline refute Mr. Quick's arguments. Informal vote of exchange taken, and unanimous verdict secured that bill was unnecessary, ruinous and an interference with the oil businesss that was unwarranted by the facts and unsolicited by any member of the exchange. Oakland Oil Co.'s well north of Butler, dry. Thorn Creek gauge, 5727 barrels, a decrease of 228 barrels from yesterday. McLaughlin mystery open to the public. Charter granted to Warren & Sugar Grove railroad, to run from Warren to the State Line, 15 miles. Capital stock, $90,000.

Governor Pattison refuses to approve the recommendation for an increase in the capital stock of the McCalmont Oil Company from $500,000 to $2,000,000. Power granted board of directors to dispose of real estate without first getting consent of stockholders. Olean Barrel works after some months of rest, start up making 2,000 oil barrels a day.

February 16. Bradford exchange sets down on the Quick bill, passing resolutions against it without a dissenting voice. Resolving that our senator and representative be earnestly requested to use all lawful means to prevent the passage of house bill No. 33.

February 17. Judge A. W. Tourgee lectures at the opera house; subject, "Give Us a Rest." Col. William Book, father of Dr. W. P., C. K. and J. S. Book, all well known oil producers and speculators, dies at Jamestown, N. Y., aged 77 years. P. M. Shannon, republican candidate for mayor of Bradford, elected over Brewer Button by twelve majority.

February 18. Thorn Creek gauge, 7369 barrels. Mushrush 1 and 3, making 76 barrels an hour. Market makes an ineffectual rise, followed by a break to 71 and a weak close at 71⅜.

February 19. Death of Hon. Hiram L. Richmond, of Meadville, aged 74 years, with one exception the oldest member of the Crawford county bar.

February 20. Reports from Thorn Creek that Murphy well has found no sand and McLaughlin dry cause rapid advance in the market. Opened at 72¾ and closes strong at 75⅞. Highest point reached in Bradford, 76¼. Fire at the Oil City boiler works. Damage not heavy and easily repaired.

February 21. Market opened firm at 77½, broke to 76½, strengthened up to 78 and closed slightly weaker at 76¾ bid. Belief begins to be general that the Murphy well is a duster. Thorn Creek production, 7944. Mushrush No.'s 1 and 3, Fisher 4 and 8, Producers No. 5, with Boyd,

doing 5,300 barrels a day. Edward Vogeley, teller of the Butler Savings bank for eight years, covers his loss in oil speculation by using $40,000 of the bank's funds.

February 23. Legal holiday. Banks and exchanges closed.

February 24. Meeting of United pipe line superintendents at Seventh Avenue hotel, Pittsburg. Market opens with a strong sentiment prevailing for higher prices, but buyers are discouraged by news that Murphy well was drilling again. A few trades made at 77½ at opening, rises to 78⅛, breaks to 76⅜, and at five minutes to three o'clock advances to 79.

February 25. Market outlook favorable for better prices. Opens below 80 and closes firm at 81⅝. Death of Michael O'Day, father of Dan O'Day at Olean. Accident on the B., B. & K. railroad near Wellsville. Engineer Fry and Conductor Jack Wallace severely injured.

February 26. Mr. H. S. Bates delivers his speech at Harrisburg in favor of House bill No. 33, in which he demands that the spectral hogs, imaginary wheat and wind oil shall give way to the real article. The two NewYork Oil exchanges agree upon a plan of consolidation. Great excitement in all the exchanges over the advancing market. Opened at 82½, sold down to 80⅞, braced up to 82, sold back to 81½ and then advanced to 85 with great rapidity. Broke during last 15 minutes to 81⅝, recovered slightly and closed at 82⅜. Edward Rial, of Franklin, severely injured by fall from derrick.

February 27. Longs frightened by exaggerated rumors and the bears again in the ascendancy. Market opened at 82, fell off a half cent and recovered to 82⅝. During the last ten minutes a small panic was created and the market went off three cents, selling down to 79½ and closing at 80 cents.

February 28. Thorn Creek gauge, 7237, a decrease of 163 barrels from yesterday. New York shorts paying premium of $1 and $2 per 1000 for the privilege of carrying oil.

JEFF WAY AND HENRY LEIDECKER, while tearing down an old derrick at Queenstown, in Butler County, the 5th of March, fell forty feet to the derrick floor, owing to the breaking of a board upon which they were standing. LEIDECKER struck on his feet, and was not much injured. WAY fell on a pile of plank full of spikes, cutting his face and head, and injuring him internally. There are strong hopes of his recovery.

THE MACKSBURG FIELD IN FEBRUARY, 1885.

The canvass of the Macksburg field at the close of February, disclosed the usual amount of activity in that distant section. A reduction in the price of crude of 30 cents per barrel seems not to have retarded the progress of the drill up to the present writing. During February, 12 wells were completed, having a new production on the last day of the month of 218 barrels. The test well drilled near Dexter came in dry. In January, 13 wells were added to the producing list, with an estimated new production of 318 barrels.

Below is the list of wells finished in February.

WELLS COMPLETED FEBRUARY 1885.

Farm,	*Operator.*	*Barrels.*
Davis, Porter & Gillmor	No 1	17
Coal Lands, Ohio Oil Co	No 5	25
Dyer, Boden & Aiken	No 2	15
do	do 3	25
do	do 4	30
do	do 5	20
Jersey, Borckman & Laney Bros	No 8	15
Stevens, Lineman & McKevett	No 3	20
Williams, Union Oil Co	No 1	6
do	do 2	15
Agler, W E Decker & Son	No 2	30
Dexter, Nesbitt & Co		dry
Wells		12
Production		218
Dry		1

There were 17 rigs and 31 drilling wells on the last of February, against 22 rigs and 28 drilling wells January 31st. A perusal of the schedule that follows, will show that Bradford operators are largely in the majority in the Macksburg field.

NEW OPERATIONS FEBRUARY 28, 1885.

Farm.	*Operator.*	*Depth.*
Smithson, Macksburg Oil Co	No 2	drllg
do	do 3	rig
Dutton, McManus	No 2	1200
W. Atkinson, D W Clark & Co	No 2 (fishing)	800
Coal Lands, Ohio Oil Co	No 6	200
do	do No 7	rig
Kathary, Kathary (shut down)		1200
Agler, Garvin & Co	No 2	1300
Dyer, Boden & Aiken	No 1	rig bldg
do	do	75
do	do	300
B F Atkinson, Stevens & Longfellow	No 3	250
do	do 4	drllg
Rice, George Rice	No 5	1400
do	do	rig
Perkins,	do	rig
Jersey, Borckman & Laney Bros	No 9 (fishing)	500
do	do No 10	rig bldg
Perkins, C J Garvey	No 4	1200
do	do No 5	450
Stevens, Lineman & McKevett	No 4	rig
Shilling, Denman & Co	No 1	1600
Devoll, S H Bradley & Co	No 3	1000
Williams, Union Oil Co		rig
L Shilling, C N Payne	No 2	1400
do	do	500
Morris, Mills & Austin		900
McLouth, Bradley & Co (fishing)		400
do	do	rig
G Shilling, John Denman		500
Patton, Mills & Mullin		rig
McGinnis, Union Oil Co		1200
do	do	1300
do	do	rig bldg
Coal Lands, Lee & Apple		1300
do	do	1000
do	do	500
do	do	rig
Perkins, J C Lineman		1350
Gervez, Payne, Chapman & Co		600
Hupp, Union Oil Co		drllg
do	Green & Shirley	1400
Warren, John Denman		3 rigs bldg
Patton,	do	200
Finch,	do	rig
Coffee, Clark & Spellacy	No 1	rig
Rigs		17
Drilling		31
Total		48

Producers who are interested in other localities as well as Macksburg, feel that the trade places too large an estimate on the extent and producing capacity of the Buckeye field. While the territory is much like Bradford, so far as uniformity is concerned, enough drilling has already been done to show that it has a small geographical range. Mr. C. H. McKevett, an experienced operator in the different oil fields, kindly prepared a table of estimates of the extent of the territory by farms, and made an estimate on the capacity of wells drilled in the various sections at the end of 60 days. The figures on the size of the wells when they have reached the age of 60 days, if thought too large or too small by farm owners or operators, will not affect their pipe line receipts. Below is the table.

County.	Lot.	Farm.	Operator.	No Acres.	Est. Prod. of Wells at end of 60 days.
Washington,	16	Stanley Matthews	Ohio Oil Co	80	8
	16	L Walker	do	80	8
	16	H H Clinedinst	J D Wolf	80	8
	16	J Smithson, Jr	Macksburg Oil Co	60	8
	16	R C Smithson	do	20	8
	17	R E Smithson	do	30	7
	17	do	do	40	7
	17	W E Smithson	do	30	6
	17	W J Morris	do	40	6
	17	J DeLong	do	50	6
	17	W. Atkinson	Decker & Bro	100	5
	18	J Roff	St James Oil Co	100	5
		R H Perkin	do	60	3
Noble	10	Williams	Union Oil Co	50	5
	10	Geo Hupp	do	80	5
	10	DeVoll	Bradley & Laney	30	10
	10	Merrow	T N Barnsdall	40	10
	10	A Stevens	Lineman & McKevet	80	15
	10	Wm Clark	Mills & Mullen	40	15
	10	Schilling	Mills, Mullin & Denman	80	15
	10	Merrow	do	80	10
	9	Phelps White	T N Barsdall	40	12
	9	Stanley Matthews	Ohio Oil Co	160	15
	9	McGinnis	Union Oil Co	30	15
	9	J Matthews	Lee & Apple	50	15
		B F Daul	T N Barnsdall	40	15
		Wm Finch	do	80	15
		Schilling	do	80	15
		Hupp	do	40	15
		E Osborn	Lineman	40	15
	4	W I Patton	Mills & Mullin	40	15
	4	T Finch	T N Barnsdall	40	10
	4	Clinedinst	Garver	50	6
	4	do	Clark & Spellacy	10	8
	4	G Finch	T N Barnsdall	40	8
	4	G Gordon	do	80	5
	4	W Warren	Mills, Mullin & Denman	80	6
	8	F Perkins	Garvey	80	15
		H Atkinson	Clark & Co	40	10
		Atkinson	Barnsdall & Laney	40	8
		do	George Rice	40	6
		Lowell Oil Co	do	120	6
		Perkins	J C Lineman	20	30
		Atkinson & others	Boden & Aiken	340	10
		Atkinson	do	60	8
		Eagle	do	30	5
		A T Patterson	Porter & Gillmor	40	5
		B F Atkinson	Stevens	40	5
				3000	

According to Mr. McKevett's estimates, the field has a developed producing area of 3,000 acres. The territory is of a lighter grade than Bradford, and it is estimated that it will have a yield of 1,500 barrels to the acre. The average of the territory is from three to thirty barrels.

The production of the field on the first of March was estimated at 950 barrels. The pipe line runs during February were under the production as oil accumulated at the wells. J. C. Lineman's No. 2 well, on the Perkins farm, completed in January, was producing 70 barrels per day the first of the month.

T. N. Barnsdall, has purchased Messrs Mills, Mullin, Laing, Geider and McDonald's interest in the Syndicate Oil Co. The company now consists of John Denman and T. N. Barnsdall.

C. N. Payne for many years a general favorite in oil region speculative circles, is now devoting himself to field operations in the Macksburg district.

RANDOM NOTES.

THE BARREL WORKS of Olean, are turning out 2000 barrels daily.

THE FUEL GAS CO., of Pittsburgh, has completed its eighth well at Murraysville.

THE *Public Herald* is the latest enterprise of L. LUM SMITH, of Philadelphia, the energetic foe of all petty swindlers, and the terror of the newspaper advertising frauds. A wide reading of this excellent journal will save the public a vast amount of money, and drive the humbug advertiser to poverty and despair.

ON the 28th day of February, the jury in the case of MILTON WESTON, charged with the murder of OBADIAH HAYMAKER, in November, 1883, returned a verdict of voluntary manslaughter. He was the second of the Murraysville gas rioters convicted, A. M. BOWSER, the brutal constable, having been the first.

DANIEL O'DAY, general manager of the NATIONAL TRANSIT COMPANY, was recently bereaved of his father. The deceased, MICHAEL O'DAY, died at Olean, on the 25th of February. He was 86 years of age, and had the respect and love of a large circle of friends and neighbors. The remains were taken to Ellicottville, N. Y.

MR. GOETZ, who lost his property last December by an explosion of natural gas, has entered a suit for compensatory damages amounting to $20,000 against the borough of Butler, because of the non-feasance, negligence, and lack of care and circumspection in the borough authorities permitting a business to be carried on within its limits which was dangerous, unsafe, inflammable and explosive.

THE COURT at Pittsburgh has appointed a commission to examine into the condition of the PENN AND FUEL-GAS CO.'S pipe lines, now in use or intended to be used by them for the purpose of transporting natural gas within the city of Pittsburgh, the manner of their use, present or prospective (including the degree of pressure thereon), and the danger of explosion or other

public injury incident to or likely to arise from the use of said pipes for transporting and supplying gas to consumers. The commission is directed to make a report within sixty days.

WEST VIRGINIA.—It is the general opinion of oil men that the Volcano oil field is about pumped dry. Its present daily output is 300 barrels, all of which goes to the refineries at Parkersburg. The palmy days of the oil business at Volcano were in 1878, when the output was about 900 barrels. The field was never of national importance. It has been worked for twenty years and few territories pay after that length of time. The parties working the field can not afford to drill new wells while the current price of crude oil is so low. — *Parkersburg Journal.*

THE COINAGE executed at the Mints of the United States during the months of January and February, 1885, was as follows:

Denomination.	January.	February.	Total 2 Mos.
Double Eagles	$2,127,620 00	$1,302,000	$3,429,620 00
Eagles	320 00	233,000	233,720 00
Hal.-Eagles	165 00	263,600	263,765 00
Three Dollars	114 00		114 00
Quarter-Eagles	90 00		90 00
Dollars	60 00		60 00
Total Gold	$2,128,369 00	$1,799,000	$3,927,369 00
Standard Dollars	2,385,200 00	2,300,000	4,685,200 00
Half-Dollars	100 00		100 00
Quarter-Dollars	50 00		50 00
Dimes	54,269 70		54,269 70
Total Silver	$2,439,619 70	$2,300,000	$4,739,619 70
Five Cents	39,065 00	34,600	73,665 00
Three Cents	18 00		18 00
One Cent	35,116 00	50,100	85,216 00
Total Minor	$ 74,199 00	$ 84,700	$ 158,899 00
Total Coinage	$4,642,187 70	$4,183,700	$8,625,887 00

AN EVEN THING.—He was the attendant of a railroad lunch counter, at a saloon in Indiana. The other day, as a stranger called for a cup of coffee, the attendant glared at him for a moment and then began to spit on his hands.

"What's up!"

"Going to have revenge on you."

"What for?"

"We were in Wall-street together ten years ago. You advised me to buy railroad stock, and then unloaded on me and brought me down to $40 per month."

"Well, don't get mad about that. It wasn't a year before a chap unloaded coal oil on me, and I'm braking on this train out here for a dollar a day."

They kissed, and called it an even thing.—*Wall Street News.*

A REPORT having been circulated that coal oil had been discovered on a certain farm in Maryland, a resident of Baltimore, who happened to be in the vicinity when he first heard of it, proceeded to the farm, to find the owner away and nobody around but the hired man.

"My man," said the Baltimorean, "is it true that oil has been found on the farm?"

"Well, there's oil on the pond back there."

"Where does it seem to come from?"

"Well, that depends," was the hesitating answer. "My boss owes me $48 for work. If he pays me today, as he agreed to, the oil comes from under a clay bank. If he puts me off any longer it comes from a barrel buried in the mud. That's the way I'm fixed, stranger, and, if you've got speculation in your eye, you'd better come around and see me later."

OH! He was a speculator cold,
Intent on buying the stocks;
So he hied himself to the oil exchange
And bid for it in blocks.

And said: "I'm a raving, rampant bull,
The production has gone to the dogs,
While consumption just now is simply immense,—
They use it for fattening hogs."

Then he talked of the shipments and charters,
Of how they were drawing on stocks,
And said if the shorts did not cover,
They would lose their very socks.

So the pykers each took in a thousand,
And got their little cans full,
And the lambs in the gallery bleated
As if each one were a bull.

The messages came a flying,
From suckers far and wide—
There is one born every minute,
To keep the exchange supplied.

While the brokers seemed perfectly happy,
And went for the stuff with a whoop.
This cold little man put in pigeons
And filled up the whoopers with soup.

Then the market sagged sadly and bursted,—
The tempests were followed by calms,—
And the kid, in the telegraph office, said:
"Rockey's been milking the lambs."

—*Oil City Blizzard.*

STOCKS IN EUROPE.

The supply of petroleum in Europe as represented by the table of stocks at the principal seaports, is 783,606 barrels less than it was one year ago, as shown by the following figures:

	Stocks Feb. 21,'85	Stocks Feb. 21,'84.
London	103,156	360,585
Trieste	29,662	69,003
Seven Continental Ports	914,811	1,401,647
Total	1,047,629	1,831,235
Decrease		783,606

THE AVERAGE PRICE OF CRUDE.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

	1879	1880	1881	1882	1883	1884	1885
January	..	110 1-5	95	83	92¾	111⅓	70¾
February	..	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅜	
April	78⅜	76⅝	84⅛	78¼	92⅝	94	
May	73½	80¼	81½	70	99⅜	85½	
June	68⅜	100¼	81	54½	117¼	68¾	
July	69⅞	101¼	76½	57⅝	108	63½	
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92¼	71⅓	112½	78	
October	88⅛	96¾	92¾	93⅝	111⅛	71	
November	105⅜	91¼	82½	114¾	114 4-5	72½	
December.	113¼	92⅜	83¾	95¼	114⅓	74⅜	

CRUDE MARKET FOR FEBRUARY.

The month of February opened with an exceedingly dull and quiet market. The fluctuations were small and there was a general lack of interest. The first week prices ranged from 68½ to 69½ cents until the last day, when a small flurry occured that carried it up to the 74 point. It sold down to 70 again very rapidly, the highest price of the second week being 72¼ and the lowest 69⅛. On Friday of the third week, a stronger feeling began to be manifested, and with the reported failures of a couple of ventures on the southeast of the Thorn Creek field, prices were carried upward with a rush, the market closing the third week at 76¾ to 77 cents. During the last week of the month, the bullish feeling continued, 85 cents being reached in the Bradford Exchange on the 26th. This proved the highest sale of the month. The month commenced with crude oil at 69¼ and closed at 81⅞. The lowest price for the month was 68⅝. The entire range of prices covered 16⅜ cents, as compared with 7⅞ cents in January, and 13 cents in December and November. The average price for the month on the floor of the Bradford Exchange was 73⅛ cents in February, against 70⅝ cents in January and 74⅜ cents in December. The average price for February, one year ago was $1.04⅜.

The volume of business as represented by the clearances at the leading exchanges has been unusually light for the past two months.

THE CLEARANCES.

	February. Barrels.	January. Barrels.
Bradford Oil Exchange	80,846,000	79,840,000
Oil City	96,984,000	99,202,000
New York, N. Y. Pet	106,896,000	103,838,000
New York, National	157,500,000	167,467,000
Pittsburgh Petroleum (new)	57,241,000	46,540,000
Total	499,467,000	496,887,000

THE REFINED MARKET.

There was an appreciation of values in refined during February, in sympathy with the gathering strength of the crude market. A noticeable improvement in the tone of the European market was also manifested and the depleted stocks are gradually being replenished. Both England and Germany are making free inquiries for refined in barrels, and the outlook is regarded as encouraging. Europe's visible supply of petroleum is about 700,000 barrels behind what it was one year ago.

The advance in the price of 70° Abel test, from 7½ to 8 cents has been well maintained, in spite of the sudden flurries in crude. Charters have been heavy, and freight rates comparatively strong. The home trade is still paying 9 to 9½ cents for 130° Standard White, 9½ cents for State test, and 10½ cents for 150° Water White oil.

Refined oil in cases has been in moderate demand, and the price has been advanced to 9⅛ cents for the plain brands. Naphtha remains quiet, with the quotations of 7½ cents for prime unchanged.

Mr. Geo. H. Lincoln's monthly circular, gives the following figures on the clearances of refined petroleum for China and the East, up to the first of March for the years 1884 and 1885.

	1885. Cases.	1884. Cases.
China.—Shanghai, previously reported	143,750	97,900
" February	193,800	
Hong Kong, previously rep'd	111,489	63,000
" February	40,400	
Japan.—Yokohoma, previously rep'd	137,212	41,313
" February	165,471	
Hiogo	58,700	....
India.—Calcutta, previously reported	212,532	254,430
" February	110,850	
Bombay, previously reported	121,582	....
" February	177,577	....
Java.—Batavia,	....	37,200
Angier, previously reported	120,100	20,500
" February	77,193	....
Singapore.	55,950	....
Penang and Singapore	....	28,900
Penang, February	21,525	....
Manila.—Padang, etc	32,500	34,476
Total	1,780,631	577,719

REFINED QUOTATIONS FOR FEBRUARY.

	New York. Cts.	Philadelphia. Cts.	Baltimore. Cts.	London and Liverpool. Pence.	Bremen. Marks.	Antwerp. Francs
1	..	..	..	..	..	..
2	7½	7¼	7⅜	6⅜	6 80	17⅜
3	7½	7¼	7⅜	6⅜	6 80	17⅜
4	7½	7¼	7⅜	6⅜	6 80	17⅜
5	7½	7¼	7⅜	6⅜	6 80	17⅜
6	7½	7¼	7⅜	6⅜	6 80	17⅜
7	7½	7¼	7⅜	6⅜	6 80	17⅜
8	..	..	..	..	..	..
9	7⅝	7⅜	7½	6⅝	6 80	17⅛
10	7⅝	7⅜	7½	6⅝	6 80	17⅛
11	7⅝	7⅜	7½	6⅝	6 80	17⅛
12	7⅝	7⅜	7½	6⅝	6 80	17⅛
13	7⅝	7⅜	7½	6⅝	6 80	17⅛
14	7⅝	7⅜	7½	6⅝	6 80	17⅛
15	..	..	..	..	..	..
16	7⅝	7⅜	7½	6⅝	6 80	17⅛
17	7⅝	7⅜	7½	6⅝	6 80	17⅛
18	7⅝	7⅜	7½	6⅝	6 80	17⅛
19	7⅝	7⅜	7½	6⅝	6 80	17⅛
20	7⅝	7⅜	7½	6⅝	6 80	17⅛
21	7¾	7½	7⅝	6⅝	6 80	17⅛
22	..	..	..	..	..	..
23	7⅞	7⅝	7¾	6⅞	6 80	17⅛
24	7⅞	7⅝	7¾	7	6 90	17½
25	8	7¾	7⅞	7½	6 95	17¾
26	8	7⅞	7⅞	8	7 00	18
27	8⅛	8	8	8¼	7 20	18¼
28	8⅛	8	8	8¼	7 25	18¼

Maps of Thorn Creek, Washington county, Pa., Macksburg, O., and Balltown, corrected to date, sent by mail for one dollar each. Address The Petroleum Age, Bradford, Pa.

The publishers of the Age, make a specialty of furnishing maps of the various oil fields. Brokers, Oil Refiners and other business firms, can have their cards on the maps, and be supplied at low rates by the dozen.

WHITE SAND POOLS.

Cherry Grove, Cooper and Balltown Pipe Line Runs to February 1st, 1885.

1882.	Ch'y Gr've.	Cooper.	Balltown.	Total.	Daily Av'ge
	Bbls.	Bbls.	Bbls.	Bbls.	Bbls.
May	6,765	....	....	6,765	218
June	91,102	....	....	91,102	3,037
July	268,294	....	....	268,294	8,655
August	753,752	....	....	753,752	24,315
September	690,072	....	....	690,072	23,002
October	290,246	3,712	....	293,958	9,483
November	146,587	8,810	....	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	163,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114,233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87,193	261,784	8,445
April	31,191	126,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	89,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67,883	151,913	4,900
September	19,590	64,648	63,453	147.691	4,923
October	13,824	56,151	55,211	125,186	4,038
November	12,689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25,469	62,262	2,224
Total Mar. 1,'85.	3,386,163	2,195,548	1,637,042	7,218,753	6,975

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to Mar. 1st, 1885. Cherry Grove has produced 3,386,163 barrels, Cooper 2,195,548 and Balltown 1,637,042 barrels. The daily average runs from the three fields during February were 2,224 barrels, a decrease of 160 barrels from the January figures. The daily average runs from the Cooper and Henry's Mills sections for February were 987 barrels, for January, 1,214 and for December 1,246 barrels.

The Balltown field has a daily average of 910 for February, against 810 in January. Cherry Grove averaged 327 barrels during February, 360 in January and 407 in December.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are enumerated in the list. The pipe line runs from these sections since April 1st, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average.
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1.015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February, 1885	205,774	7,349	18,570	663

RUNS, SHIPMENTS AND STOCKS.

RUNS OR RECEIPTS.

Pipe Line.	February, 1885.	January, 1885.
National Trans t Co	1,354,345.48	1,451,864.14
Tidewater	175,974.46	190,950.11
Octave Oil Co	2,024.70	2,326.17
Charley Run		
Shaffer Run		
Franklin (limited)	5,195.73	5,130.20
Cranberry Pipe Line	1,787.30	1.714.04
Total	1,539,327.67	1,651,984.66
Daily average	54,975.97	53, 89.83

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

Pipe Line.	February, 1885.	January, 1885.
National Transit Co	1,710,322.42	1,618,712.16
Tidewater	173,750.13	172,106.31
Octave Oil Co	2,126.50	1,783.64
Charley Run		
Shaffer Run		
Franklin (limited)	6,484.51	8,083.59
Cranberry Pipe Line	1,991.73	2,997.80
Total	1,894,675.29	1,803,683.50
Daily average shipments	67,666.97	58,183.34

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532.22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020.89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily exeess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23
Daily excess of runs over shipments, December	6,395.92
Daily excess of shipments over runs, November	3,548.49
Daily excess of shipments over runs, October	3,972.41
Daily excess of shipments over runs, September	11,372.77
Daily excess of runs over shipments August	1,571.67
Daily excess of runs over shipments, July	12,905.31
Daily excess of runs over shipments, June	12,183.86

NET STOCKS.

Pipe Line.	February 28, 1885.	January 31, 1885.
National Transit Co	34,712,710.66	35,071,579.19
Tidewater	1,495,852.79	1,504,885.58
Octave Oil Co	5,200.59	5,144.84
Charley Run	3,717.00	3,717.00
Shaffer Run	30,636.32	30,636.32
Franklin (limited)	24,249.73	20,594.79
Cranberry Pipe Line	19,306.01	24,454.16
United Pipe Line	25,133.03	32,100.26
Total	36,316,806.13	36,693,112.14

Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780.27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552.87
Stocks decreased Oclober, 1884	616,976.88
Stocks decreased September, 1884	345,281.52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.10
Stocks increased June, 1884	190,320.23
Stocks increased May, 1884	322,981.75
Stocks increased April, 1884	1,945,919.83
Stocks increased March, 1884	164,711.33
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56
Stocks increased, December, 1883	220,328.28
Stocks Decreased November	121,800.43
Stocks Decreased October	135,681.61
Stocks Decreased September	350,167.79
Stocks Decreased August	269,053.22
Stocks Increased July	386,004.51

	Receipts.	Deliveries.
Daily Average February, 1885	54,976	67,667
Daily Average January, 1885	53,290	58,183
Daily Average December	61,743	76,808
Daily Average November 1884	61,751	69,264
Daily Average October, 1884	63,064	80.966
Daily Average September, 1884	65,952	76,391
Daily Average August, 1884	66,996	64,402
Daily Average July, 1884	66,702	56,170
Daily Average June, 1884	67,350	60,907
Daily Average May, 1884	66,688	56,448
Daily Average April, 1884	65,794	54,773
Daily Average March, 1884	64,590	60,445
Daily Average February, 1884	64,573	59,420
Daily Average January, 1884	58,178	54,404
Daily Average December, 1883	62,830	56,434
Daily Average November	65,281	68,829
Daily Average October	67,649	71,621
Daily Average September	66,210	77,582
Daily Average August	68,877	67,306
Daily Average July	65,628	52,722
Daily Average June	70,443	58,259
Daily Average May	69,445	61,411
Daily Average April	69,207	63,612
Daily Average March	64,404	52,737
Daily Average February	65,208	44,352
Daily Average January	65,125	43 813

PETROLEUM EXPORTS.

THE exports of refined, crude and naphtha, from all United States ports from Jan. 1 to March 7, for the years 1884, 1885, were as follows:

	1885. Gallons.	1884. Gallons.
From Boston	1,043,709	1,164,326
Philadelphia	11,889,171	9,441,610
Baltimore	1,854,356	786,357
Richmond	. . . .	. . . .
Total	14,787,236	11,392,293
From New York	61,512,379	60,423,590
Total exports from United States	76,299,615	71,815,883

The appended table from the *Shipping List* gives the total exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1st to March 7th, for the years 1884 and 1885:

REFINED.

	1885.		1884.
GREAT BRITAIN.—London	3,371,140		3,112,527
Liverpool	2,326,933		393,623
Bristol	890,025		390,780
Ireland	783,787		752,849
Other ports	1,971'204		1,199,543
GERMANY—Bremen	2,067,864		7,032,075
Hamburg	4,214,013		7,685,230
Konigsburg and Stettin	569,024		. . . .
Dantzic	133,418		. . . .
Other Ports	. . . .		. . . .
FRANCE—Marseilles	. . . .		. . . .
Havre	. . . .		. . . .
Norway and Sweden	413,210		209,273
Russia	. . . .		. . . .
DENMARK—Tuborg	305,250		. . . .
Aarhuns	. . . .		. . . .
Aalborg	. . . .		. . . .
Copenhagen	630,337		725,066
Elsinore	. . . .		. . . .
Belgium	4,208,258		5,626,793
HOLLAND—Amsterdam	2,753,865	6,548,232	. . . .
Rotterdam	909,299		. . . .
Spain	. . . .		30,000
Portugal	280,552		45,000
Gibraltar and Malta	158,000		1,690,080
Italy	270,599		452,020
Austria.—Trieste, etc	483,945		989,418
Greece	. . . .		. . . .
Turkey in Europe	704,900		150,200
Turkey in Asia	571,100		356,010
Arabia	. . . .		. . . .
INDIA AND SIAM—Bombay	2,981,590		. . . .
Calcutta	3,233,820	2,419,160	. . . .
Bangkok	325,000		. . . .
CHINA AND JAPAN—Shanghae	3,760,500		. . . .
Hong Kong	1,518,890		. . . .
Yokohama	3,026,830	2,976,030	. . . .
Saigon	. . . .		. . . .
EAST INDIES—Anjier	1,972,930		. . . .
Batavia	. . .		. . .
Iloilo	. . . .		. . . .
Manila	. . . .		. . . .
Padang	. . . .		. . . .
Penang	215,250		. . . .
Rangoon	. . . .		866,000
Singapore	559,500		. . . .
AFRICA.—Alexandria, etc. E	701,010		503,210
Canary Islands	15,000		. . . .
Other Ports	224,930		353,012
Australia	865,430		477,913
New Zealand	277,404		177,800
Sandwich Islands	. . . .		125,100
SOUTH AMERICA.—Brazil	1,488,893		808,806
Argentine Confederation and Uruguay	373,680		731,570
Chili and Peru	211,500		86,860
U. S. Columbia	75,245		105,770
Venezuela	100,675		103,088
Other Ports	8,610		22,300
Central America	31,575		28,640
Mexico	241,105		244,874
British North American Colonies	208,837		122,878
Cuba	103,341		134,657
British West Indies and Br. Guiana	397,240		306,239
Other West Indies	312,088		243,053
Total . . . . . Galls.	51,248,596		48,225,676

CRUDE.

	1885.		1884.
FRANCE.—Havre	2,062,411		2,316,416
Marseilles	452,402		1,463,532
Bordeaux	571,024		327,513
Dunkirk	1,107,786		893,603
Cette	687,857		. . . .
Rouen	253,524	1,955,569	. . . .
Les Sables d'Ollone	119,961		. . . .
St. Loubes	. . .		. . . .
Antwerp	. . . .		. . . .
Bremen	407,483		. . . .
Austria—Fiume	423,815		2,257,826
Norway and Sweden	. . . .		. . . .
SPAIN—Alicante	634,804		. . . .
Pasages	67,792		. . . .
Bilboa	679,010		. . . .
Barcelona	127,750		. . . .
Corunna	233,000	728,074	. . . .
Malaga	162,000		. .
Santander	165,350		. . . .
Seville	296,250		. . . .
Tarragona	83,910		. . . .
Valencia	166,783		. . . .
Cuba	521,027		771,393
Total . . . . . Galls.	9,223,939		10,713,926

NAPHTHA.

	1885.	1884.
Great Britain	304,958	878,042
France	303,712	385,606
Germany	201,145	211,090
Other Europe	208,491	. . . .
Various Ports	21,538	9,250
Total . . . . . Galls.	1,039,844	1,483,988

RESIDUUM.

	1885.	1884.
To all Ports	635,000	762,325

	Gallons.
Total Refined since January 1, actual shipments	54,005,408
do do do do crude equivalent	72,007,211
do Crude do do actual shipments	9,662,032
Grand Total Crude and Crude equivalent . . . . galls.	81,669,243
Same time, 1884	80,026,348

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, March 10, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude.	Naph.	Res.	Total.
New York	20	28	7	2	2	59
Philadelphia	18	10	3	0	0	31
Baltimore	5	0	0	0	0	5
Boston	0	1	0	0	0	1
Total	43	39	10	2	2	96
Total Feb. 4	32	48	18	2	2	102
Difference	11	9	8	0	0	6

SUMMARY of the statement of the Tidewater Pipe Co., Limited, for February, 1885.

		Barrels.
Quantity of crude petroleum in custody at beginning of February		1,504,885.58
Quantity of crude petroleum at close of Feb	1,575,917.15	
Less sediment and surplus	80,064.36	
		1,495,852.79
Receipts during February		175,974.46
Deliveries during February—to refiners	173,750.13	
" " " to other parties	8,056,09	
		181,806.22
Outstanding certificates, accepted orders, etc		845,000.00
Credit balances		650,882.79
Total liabilities February 28, 1885		1,495,852.79

JANUARY SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of January		1,517,505.89
Quantity of crude petroleum at close of Jan	1,580,717.40	
Less sediment and surplus	75,831.82	
		1,504,885.58
Receipts during January		190,950.11
Deliveries during January—to refiners	172,106.31	
" " " —to other parties	26,114.85	
		198,221.16
Outstanding certificates, accepted orders, etc		854,000.00
Credit balances		650,885.58
Total liabilities January 31, 1884		1,504,885.58

SUMMARY of the statements of the National Transit Co., for February and January, 1885.

	February.	January.
Receipts from all sources	1,369,368.80	1,483,973.11
Deliveries	1,710,322.42	1,618,712.16
Gross stocks end of month	37,227,218.75	37,569,100.87
Sediment and surplus	2,514,508.09	2,497,521.68
Total liabilities end of montb	34,712,710.66	35,071,579.19
Outstanding acceptances	27,694,042.14	27,626,592.54
Credit balances	7,018,668.52	7,444,986.65

The above receipts from all sources for February were made up as follows:

Transferred from United Pipe Line as reported to N. F. Hilton, representing Conference of Oil Exchanges	6,967.23	
Less sediment and surplus	. . . .	
Net amount from United Pipe Lines		6,967.23
Runs from wells		1,354,345.48
Received in iron tanks		8,056.09
Total		1,369,368.80

THE PETROLEUM AGE.

DEVOTED TO THE

Interests of the Petroleum Trade.

PUBLISHED MONTHLY BY

McMULLEN & SNELL.

BRADFORD, PA.

W. C. ARMOR, MANAGER.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid) . . . . . $3.00 per Year in Advance.
Subscription Price (Postpaid) . . . . . $1.75 per 6 months in Advance.
Foreign Subscription . . . . . $3.50 per Year in Advance.
Single Numbers . . . . . 30 cents.
The Bradford office of the AGE is in the Producers Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

On the last day of February, there were one new rig, 62 old rigs and 12 drilling wells in the Allegany field, making a total of 75. Compared with the figures of 30 days previous, there was a decrease of four new rigs, an increase of six old ones, while the drilling wells remained the same. Only six wells were finished in February, and three of these came in dry. So far as the Allegany field is concerned, the termination of the shut down movement does not stimulate the work of rig building in the field. The average daily pipe line runs from the district during February, were 7,696 barrels, an increase of 254 barrels over the January average.

BRADFORD FIELD.

A comparison of figures, showing the business of the month, is about all there is to be said in regard to the new work in the Bradford district. During February, 12 wells were finished, having a new production of 271 barrels. In January 15 new wells were sunk with a new production of 207 barrels. The regular monthly count made by AGE representatives, showed 19 rigs, 53 old ones and 17 drilling wells on the 1st of March, a total of 89, an increase of 12 over the February 1st list. The average daily runs from the district for February, were 27,480 barrels, an increase of 226 barrels over those for January.

WARREN AND FOREST.

The great middle field completed but 19 wells in February and two of these were dry. The only portion of the field that can be considered moderately active is the Clarendon-Tiona section. On the first of the month Clarendon and Tiona had 22 new rigs up and 18 drilling wells. The two counties were represented by 32 new rigs, 36 old rigs and 25 wells drilling. At Kinzua Village the owners of the Parker mystery have a second test under way, on the Swift farm about a mile farther up the Allegheny, while two rigs have been erected in the same locality. In the Glade district Kerns & Smith completed a duster on the Parks farm, up Glade Run, about two miles east of Warren.

At Balltown the Proper Reserve Oil Co., successors to Emery, Agnew & Co., have a well near the sand, on the south side of the Tionesta Creek. The Porcupine Oil Co. completed a small well on their property, and have a rig erected in the gas territory at the northern end of the development. The wildcat of James Goff & Co. still remains shut down, awaiting the pleasure of its owners to set a time when it can be used most advantageously to create a furore in the market.

Outside of the ventures mentioned above the wildcat experiments are very scarce, and the middle field remains neglected, while the lower country once again becomes the principal scene of operations for the active and industrious lease hunter.

LOWER COUNTRY.

In the old Mount Hope district, south of Franklin, and on the east side of the Allegheny river, Dr. Galbreath completed a well in February which started at 65 barrels, and had settled to 40 barrels on the last of the month. Outside of this strike there was nothing new to report from Pioneer to Clarion county, where the Cogley Run section, on the border line between Clarion and Venango counties, attracts the attention of a few operators. The Cogley Run Oil Co.'s well was given a 12-quart shot March 4th, which raised it to a 25-barrel producer for the succeeding 24 hours, and it is still pumping better than 20 barrels per day. The Young Farm Oil Co.'s well and Kale & Co.'s well, both on the Young farm, were drilled into the sand on the 12th inst. The Young Farm Oil Co. well struck the sand at 992 feet and had about 18 feet of rock. This well is several locations north of the original well and is making a very light crude display. Kale & Co.'s well, one location farther west toward the belt line, struck the sand at 1011 feet and gives indications of making quite as large a well as the Cogley Run producer. Nearly a half-mile north of the Pioneer strike Leedom & Patterson are drilling a well which will be a good test for the width of the belt, which is supposed to be running in a northeasterly and southwesterly direction. Baum & Co.'s well, three miles southwest of Cogley Run, on the Starr farm, shows some gas but no oil. There were seven rigs up and building and nine wells drill-

ing in Clarion county on the first of the month.

During the past month the mystery men have been holding high carnival on Thorn Creek and this land of gushers has been conspicuous for the jugglery of its wells. At this writing, (March 16th), a doubt hangs over the Markham well, which, since the southern failures, has the geographical situation that renders it the most important well in the field. The well has been closely guarded while the drill passed through the sand, which is reported good by the privileged few who were permitted to examine it. Two 1200 barrel tanks have been erected at the Markham well and it is to be torpedoed as soon as all preparations are made and the market is in the right position. The Murphy well, at first reported dry by the owner, was not without chances of being a producer of oil after the owner had relaxed his hold on a bundle of crude bought when the fractions were vibrating on a lower plane. The well has been drilled deeper since it was at first reported dry and starts pumping at a 30-barrel gait. The Allshouse well, south of the Murphy, has been drilled below the sand level and found to be dry. Fisher & Co.'s test on the Scully, Sutton & Co. on the Kersting and Harley on the Kennedy, all south of the eastern line of development, came in dry. The Clark, Reep & Sutton well on the McLaughlin farm is now pumping 30 barrels per day. From present appearances the Thorn Creek pool will find its terminus in a due east direction from the most easterly group of producing wells. From the fact that the wells on the Mushrush farm and those owned by the Associated Producers due south do not exhibit staying qualities, the conclusion is drawn that they are not fed by a large pool of oil lying to the east. The hourly gauges of the frontier wells of the Thorn Creek pool on the morning of March 16th, were as follows: Mushrush 1, 11 barrels; No. 2, 10 barrels; No. 3, 20 barrels; No. 4, 8 barrels, and No. 5, 25 barrels. The Producers' No. 9 was doing 27 barrels and their No. 12, 41 barrels. The total production of the field was 8,057 barrels. The average daily pipe line runs from the Baldridge and Thorn Creek pools for February were 7,349 barrels, an increase of 1150 barrels over the January average. It cannot be denied that the field is producing a small amount of oil for the effect which it has on values. It furnishes a convenient lever for the manipulator to use in raising and depressing values. The drill alone can demonstrate the possibilities of the territory in advance of the immediate battle-ground of active operations. The twelve wells finished in the Thorn Creek district during February had a new production on the last day of that month of 2213 barrels. The 20 wells completed during January had a new production of 2300 barrels on January 31. On the first of March there were 15 new rigs, two old ones and 50 wells drilling in the Thorn Creek district, an increase of ten over the total of the previous month.

CHRONICLES OF THORN CREEK FOR FEBRUARY.

Our record of the Thorn Creek field closed with the middle of February. At the present moment the development seems to be limited on the southeast by the insignificant results of the Murphy and Reep & Sutton wells. The prolific territory appears to spread out very thin beyond the McBride gusher. The Reep & Sutton venture, on the McLaughlin farm, has been developed into a twenty-barrel pumping well. It indicates that there may be considerable of this kind of territory yet remaining in this section of the field, but its productive calibre is too small to render it a dangerous element to the future of the petroleum trade. The story of the development for the past thirty days will be found arranged chronologically below.

February 15. Oakland Oil Co.'s (M. K. McMullin & Co.) well on the J. Robb farm, two miles north of Butler, through the sand and dry.

February 16, Ten rigs and forty-five drilling wells in the district to-day.

February 17. Mushrush No. 3 improved to 53 barrels an hour. Pipe line employes putting in three-inch line to the McLaughlin farm well.

February 18. Associated Producers No. 5, on Sutton & Scully, 53 feet in the sand. Mushrush No. 3 drills into soft sand and makes 144 barrels in three hours. Fisher No. 12, on the Marshall, through the sand and rigged up to pump. Mushrush No. 1 holding up to 600 barrels a day. Armstrong No. 3, 30 feet in the sand, with the hole full of water.

February 19. Producers No. 5 shot with 80 quarts of nitro-glycerine at 4 p. m., and starts off at the rate of 110 barrels an hour. This shot increases the production of Mushrush No. 1, 8 barrels an hour.

February 20. Scouts measure up the Murphy No. 1 and McLaughlin wells and both found in the slate. Murphy well, 1712 feet deep; should have reached sand at 1685 feet, where a dark bastard sand was struck. At 1695 feet two

feet of white sand was found. McLaughlin well had 12 feet of sand and has made 25 small flows, amounting in all to about twenty barrels.

February 21. Boyd & Armstrong, on the C. Marburger farm, drilled 1538 feet; found one foot of white sand and pronounced dry. Murphy abandons his No. 2 drilling well on the Mangel. Mushrush No. 2 finds a good sand and starts flowing at rate of 17 barrels an hour. McBride well makes a flow and the boiler house is burned. Producers 5 drops off to 43 barrels an hour. A 1200-barrel tank at Producers 5 burst, oil runs down the creek and fired from a thawing line. McBride City saved from destruction by prompt work of the inhabitants.

February 23. Mushrush No. 2, 35 feet in the sand this p. m. and flowing 40 barrels an hour.

February 24. Mushrush No. 4, 4 bits in the sand and showing fair. Fisher No. 10, 25 feet in good sand. McLaughlin farm well shot with 18 quarts at 3 p. m. and makes a fair response. Shot parts the casing 100 feet from the top and lets in fresh water. Indications are that well will be small.

February 25. Mushrush No. 4 making 24 barrels an hour this a. m. In the evening, about 20 feet in the sand and doing 14 barrels an hour.

February 26. Fisher No. 10, 30 feet in the sand. Mushrush 4 nearly through sand and making 40 barrels an hour. McBride has fallen off one-half the past 48 hours.

February 27. McLaughlin farm well will be tubed February 28. Sixty-three producing wells. Production 7341 barrels. Mushrush No.'s 1, 2, 3 and 4 doing 1534; Producers No. 5, 590; Fisher No.'s 4 and 8, 1839; McBride, 333; Boyd, 415, and Lockwood 198 barrels a day. Total, 4909 barrels from 10 wells, leaving 2432 barrels to be produced by the remaining 53 wells.

March 2. Fisher No. 10, Marshall, through 30 feet good sand; will be tubed and pumped without shooting. No. 9 through sand, with hole full of oil and water. Fifteen feet good sand near the bottom; showing for small well.

March 3. Mushrush No. 2 shot; made 50 barrels first hour and 45 the second.

March 4. Lockwood well shot with 4-quart torpedo and made 25 barrels first hour after. Fisher No. 9 shot with 40 quarts but made no response. Fisher 10 pumping water. Murphy begins bailing out his well on the Mangel, after letting it stand for eight days. Conners No. 2 shot with 60 quarts in evening, made 108 barrels first hour and 658 barrels during the first twelve. McLaughlin well starts pumping at 8 p. m.

March 5. Mushrush No. 5 shot with 20 quarts; made 50 barrels first hour. Lockwood doing 300 a day. One thousand feet fluid reported in the Murphy well. Markham well, on the Lavery farm, supposed to be in the sand, but no outsiders are allowed about the derrick.

March 6. McLaughlin well pumped 27 barrels first 24 hours. Fisher No. 10 shot and collapsed the casing.

March 7. Harley & Co., on the W. Kennedy farm, ran into a white sand thirty feet above where it was expected. Had some gas but no oil. Fisher No. 10 again pumping water.

March 9. Fisher No. 17, Marshall, 35 feet in sand, with hole full of water. No oil has yet appeared. Armstrong No. 4 10 feet in sand and has made several small flows. Harley well is to be mystified. Fisher 18, on the Wallace, through sand and showing for an average well. Fisher No. 9, on the Marshall, pumping 10 barrels a day. Producers No. 12, 25 feet in hard white sand. McBride well making 83 barrels a day.

March 10. The Allshouse well on the Girard farm first known to be dry. Said to have been drilled through sand on the 8th inst. Fisher 17, shot with 80 quarts, Producers No. 9, 12 feet in sand. Mushrush 5, 8 feet in the sand, with no show of oil.

March 11. Fisher No. 17, responded at 10:30 last evening with 135 barrels the first hour, and made 1,000 barrels during the first eight hours. Producers No. 9, 20 feet in sand, and 500 feet of oil in hole. Producers No. 12, through sand and made one flow. Sutton & Co. well on T. Kersting farm dry.

March 12. Markham through sand. Begin grading for two 1,200 barrel tanks. Murphy well tubed and started pumping. Producers No. 12, shot at 4:30 P. M. with 100 quarts, made 160 barrels the first and 137 barrels the second hour. Mushrush No. 5, drilled into the lower pay streak and commenced flowing at 70 barrels an hour, at 5 P. M. was making 50 barrels an hour.

March 13. Production 10,200 barrels. Increase from Producers No. 12 and Fisher No. 17. Fisher No. 8 stops flowing. Pipe line being laid to Markham well. Harley well on Kennedy, reported through sand and dry. Will be drilled 1,700 feet.

March 14. Producers No. 9, shot with 100 quarts at 2:40 P. M. Made 90 barrels first hour, and at 9 o'clock same evening was doing 50 barrels an hour. Murphy well pumped 30 barrels first 16 hours, ending at 8 this morning.

HOURLY GAUGES OF PRINCIPAL THORN CREEK WELLS.

Date.	Fisher No. 4	Fisher No. 8	Mushrush No. 1	Mushrush No. 2	Mushrush No. 3	Mushrush No. 4	A. P. Co. No. 5	Lockwood	Fisher No. 17	Mushrush No. 5	A. P. Co. No. 12
Feb. 25	44	30	20	44	27	.	36	10	.	.	.
" 27	42	29	14	18	20	30	26	10	.	.	.
" 28	42	28	13	11	22	18	24	8	.	.	.
Mar. 2	38	25	32	11	16	16	20	9	.	.	.
" 6	37	23	18	23	12	14	17	7	.	.	.
" 9	37	28	16	16	27	8	15	11	.	.	.
" 11	37	25	16	10	26	9	14	8	95	.	.
" 12	35	19	16	7	25	6	14	7	64	.	.
" 13	32	.	15	8	24	6	14	6	48	38	78
" 14	38	.	13	10	22	14	14	11	40	23	63

Following is the scouts gauges of the Thorn Creek field for February, January and December.

	February.	January.	December.
1	6,320	8,050	7,850
2	6,045	7,000	6,225
3	6,100	6,664	6,968
4	5,941	6,225	6,691
5	7,128	6,225	5,989
6	7,256	5,662	6,319
7	7,096	5,672	6,106
8	7,100	5,382	5,768
9	7,202	5,670	5,756
10	6,214	5,602	5,676
11	5,648	5,684	8,952
12	5,875	5,628	7,689
13	5,955	5,346	14,264
14	5,727	5,350	11,200
15	6,000	5,050	10,972
16	7,347	5,324	10,217
17	7,645	5,518	11,080
18	7,369	5,220	11,259
19	7,180	4,700	9,715
20	8,540	4,826	8,532
21	7,944	4,593	7,500
22	7,800	5,125	7,016
23	7,950	4,735	7,140
24	8,165	4,618	6,402
25	7,460	5,015	6,300
26	7,821	5,100	7,140
27	7,492	4,900	8,892
28	7,341	4,815	8,000
29	. . .	5,953	7,512
30	. . .	6,668	6,721
31	. . .	6,950	8,350
Total	195,661	173,270	248,211
Daily average	6,988	5,589	8,807

OBITUARY.

Thomas E. Kern.

On the 3rd of March, Thomas E. Kern, oil editor of the Bradford Era, passed quietly away at the residence of his brother-in-law, Hon. W. F. Jordan, in this city. He had been confined to the house for several weeks, by what his friends and relatives hoped was nothing more than a severe attack of fever. While apparently in a fair way towards recovery, he suffered a relapse, that combined with lung troubles, brought about the fatal result. His death was a surprise to all.

The deceased had a wide circle of acquaintances, among oil men, from Allegany to Butler. His labor brought him into personal contact with the active workers in the field, and in the office, and his genial qualities made him countless friends. For the past three years, he had been the Era's sole authority on oil matters, and was thoroughly conversant with the oil business. The newspaper fraternity of the city lose a valued and energetic member, and the paper for which he toiled so long and faithfully, will miss a patient and industrious worker.

Mr. Kern was a native of Venango county, where his parents still reside. He came to Bradford in 1879, to accept a position on the journalistic staff of the daily Era. He was a worthy and honored member of the A. O. U. W., the Knights of Pythias and the Bradford Press Club. He was still a comparatively young man. The funeral services were held in this city, on the evening of the 5th inst., and on the following morning the remains were taken to Meadville, Pa., for interment.

Lyman C. Blakeslee.

The entire oil community, received a shock when the sudden death of the general superintendent of the P. C. L. & P. Co. was announced, on the evening of March 7th. Mr. Blakeslee was an old and well known resident of the oil country. Public spirited and popular, he had twice been elected to the common council of the city of Bradford, and each time had been chosen president of that body. He was a quiet and unostentatious gentleman, a sincere christian and a faithful friend. He inspired the confidence and esteem of every one who came in contact with him, and to his numerous employees and subordinates he was ever kind and helpful. No man will leave behind him a more fragrant memory, or be followed to the grave by more sincere mourners, than the subject of this obituary.

Lyman C. Blakeslee was the oldest son of Eli and Emily Blakeslee. He was born in Madison county, New York, in January, 1822. His parents removed to Chautauqua county, in 1838, where they remained until 1845, when they took up their permanent residence in Illinois. Mr. Blakeslee was married in September, 1843, to Miss Maria C. Angell of Hanover, N. Y. His first wife died July 4th, 1860, leaving three children, Mrs. Logan H. Roots and Mrs. Helen M. Norton of Little Rock, Arkansas, and Mr. Charles H. Blakeslee, now of Florida.

In 1861, Mr. Blakeslee was married to Miss Susan Kennedy of Du Quoin, Illinois, who, with four children, survive to mourn the loss of a noble husband and a devoted father. In 1869, he came to the oil country, in the employ of his brother-in-law, Mr. C. D. Angell, with whom he remained until June, 1872, when he became connected in the producing business with Mr. Fred. Prentice. In 1877, Mr. Prentice's interests passed into the hands of the Standard Oil Co., and Mr. Blakeslee became manager and superintendent of the Producers Consolidated Land and Petroleum Company, which position he filled at the time of his death. His remains were interred at Olean on March 11th, 1885.

FEBRUARY OPERATIONS.

THE ENTIRE REGION,—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN FEBRUARY, 1885.

Allegany Field.

Lot.	Owner.	Barrels.
Alma, lot 24,	S G Bayne, No 5	2
do 55,	Wanamaker & Furman	dry
Wirt, lot 1,	Applebee Bros	8
do 52,	Wilson Bros & Co	5
do 61,	National Transit Co (gas)	dry

Miscellaneous.

Near Moravia, N Y,	Moravia parties	dry

Wells completed	6
Production	15
Dry	3

Bradford Field.

Rutherford, J T	Jones, No	8
do do	No	10
Dodge, Dodge &	Carter	5
Keyes, Collins &	Merrill No 11	8
	McElree Bros	6
Keating, Forest Oil Co	No 47	6
Bingham, lot 579,	Union Oil Co No 11	50
do 594,	Bayne & Fuller No 2	50
do 568,	Associated Producers Co No 32	35
do 580,	Associated Producers Co No 33	35
do	— Rose & McLeod No 5	8
do 593,	T J Melvin	50

Wells completed	12
Production	271
Dry	0

Warren and Forest.

Glade and other Towns.

Cobham,	Union Oil Co No 20	10
Parks, Kerns &	Smith	dry

Wells	2
Production	10
Dry	1

Clarendon.

53,	Union Oil Co No 20	6
463,	Steelsmith & Co No 1	6
464,	Riddlesperger Bros	5
499,	Munroe & Finnegan No 3	6
527,	Goal Bros No 2	8
557,	Dyson & Lowden No 6	7

Wells	6
Production	38

Tiona.

82,	Fertig & Henna No 2	5
161,	Helm & Mealey	6
165,	Whitehill & Co No 6	8
201,	L H Best No 1	5
204,	Mandell Oil Co No 2	6
202,	E O Emerson No 1	6
240,	E O Emerson No 1	5
241,	F W Winger No 4	7
241,	L Kraeer & Co No 2	8

Wells completed	9
Production	56

Balltown.

3194,	Porcupine Oil Co No 30	20

Wells	1
Production	20

Miscellaneous.

Tidioute,	W W Hague	dry

Well	1
Production	0
Dry	1

Lower Country.

Venango.

Diamond,	Loots & Co	10
Hall (near Salina),	Wood & Walker	dry
Diamond,	Darr & Manning No 5	8
Morrison,	Fisher Bros	5
Sugar Creek,	McElhany & Malony	dry
O D	Harrington, Galbreath & Co	40
Gilger,	do	5

Vicinity Emlenton.

Thos	Bailey, Heater & Co	5
McCullogh,	Porterfield & McCombs	5
David	Crawford, Thomas Jamison	10

Wells	10
Production	88
Dry	2

Clarion.

Sweitzer,	Bartlett & Co	5

Wells	1
Production	5
Dry	0

Butler and Armstrong.

Young,	J W McKee	dry
L Witt,	Greenlee & Russell	50
do	Dale, Larkin & Co	50
Robb,	M K McMullen	dry

Thorn Creek.

Marshall,	Fisher Oil Co	No 12	55
Dodds,	Phillips Bros	No 6	15
McCandless,	do	No 2	3
do	do	No 3	85
Mushrush,	do	No 2	265
do	do	No 3	500
do	do	No 4	440
Sutton & Scully,	Assoc'd Producers	No 5	600
Kennedy,	Hon M L Lockwood		200
Marburger,	Boyd & Armstrong		dry
Crow,	Sheidmantle		30
McLaughlin,	Clark, Reep & Sutton, est		20

Total	2313
Wells	16
Production	2313
Dry	3

DRILLING WELLS, RIGS UP AND BUILDING FEB. 28, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
2,	Coast Oil Co No 31 (old)	rig
3,	Coyle (old)	rig
4,	McEnroe & Elliott No 5	drilling
4,	Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12,	do No 10 (old)	rig
50,	The Union Oil Co No 8 (old)	rig
50,	do do No 9 (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Pickering & Smith (foundation laid) (old)	rig

New rigs	0
Old rigs	10
Drilling	1
Total	11

Alma.

1,	Phillips Bros No 14 (shut down)	300
1,	do No 15 (old)	rig
23,	Vance & Horton (old)	3 rigs
24,	New Milford Oil Co old)	2 rigs
24,	W F Jones (old)	rig
37,	Perrin & Young (old)	rig
51,	Sawyer & Co (old)	rig
55,	W F Decker (old)	rig
86,	Shirley & Hochstetter	drilling
107,	do	rig
88,	Duke & Co (old)	rig
142,	Dean & Smith No 5 (old)	rig

New rigs	1
Old rigs	13
Wells drilling	1
Total	15

Wirt.

1,	Applebee Bros	500
14,	Lester & Co. (old)	rig
33,	Miner, Wellman & Fuller (old)	rig
52,	Allegany Gas Co (old)	rig
60,	(I Jordan f'm) Lester, Jordan & Co,	drilling
34,	Wirt Centre, Mulkins & Co	drilling
Skinner farm,	H H French & Co	drilling
Wheeler,	McKenzie & Co(old)	rig

New rigs	0
Old rigs	4
Wells drilling	4
Total	8

Bolivar.

4,	(Cole tract) Matson & Caldron (old)	rig
7,	W & J Duke No 16 (old)	rig
7,	Coast Oil Co No 20 (old)	rig
7,	do No 42 (old)	rig
7,	do No 45 (old)	rig
15,	Fay	600
15,	Sawyer & Co (old)	rig
23,	F C Streeter & Co No 7 (old)	rig
23,	Irvin & Morgan No 5 (old)	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	do do No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
63,	N O Levens	drilling
Wetherby,	Empire Gas Co (old)	rig

New rigs	0
Old rigs	12
Drilling	2
Total	14

Clarksville.

9,	Heuston & Brecht No 4 (old)	rig
9,	Merritt (old)	rig
McDougal, Clover &	Co	rig
10,	Whipple Bros (old)	rig
12,	National Transit Co (for gas)	drilling

New rigs	1
Old rigs	3
Wells drilling	1
Total	5

Genesee.

8,	I Willets (to the top of sand	drilling
8,	do (to the top of sand)	drilling
14,	Merwin (old)	rig
21,	Empire Gas Co No 3 (old)	rig
22,	I Willets No 13 (old)	rig
22,	do No 14 (old)	rig
22,	do No 15 (old)	rig
22,	do (old)	rig
23,	Hughes & Coughlin (old)	rig
23,	Emery Oil Co No 16 (old)	rig
23,	do do No 17 (old)	rig
Champlain,	Emery Oil Co No 8 (old)	rig
29,	William Cranston (old)	rig
31,	H L McMullan & Co (old)	rig
38,	S E Young (old)	rig
38,	Empire Gas Co (old)	rig

New rigs	0
Old rigs and wells shut down	16
Drilling	0
Total	16

Miscellaneous.

Gains, Peck &	Tait (old)	rig
Bradford Co, Pa,	New Era Co	900
Near Binghampton, N Y,	Mayer & Co (shut down)	1100
Wells, N Y,	Carroll & Co (old)	rig
Near Aurora, N. Y.,	Allen & Co (for gas)	drilling
Chemung Co,, N. Y.,	Ira Sawyer fishing	900

New rigs	0
Old rigs and shut down	3
Wells drilling	3
Total	6

Bradford Field.

East and West Branches.

Paton, McClure &	Co (old)	rig
Clark, McCray	Bros (old)	rig
Willis, do	No 29 (shut down)	550
Glass, Barnsdall	Bros (old)	rig
Dent, P C L & P	Co No 64 (old)	rig
do do do	No 65 (old)	rig
do Whitney & Wheeler	No 40 (old)	rig
Mill lot, Whitney & Wheeler	No 9 (old)	rig
Paul, Bayne, Fuller & Melvin	No 5 (old)	rig
Wilson, West Branch Oil Co	No 11 (old)	rig
Cary, Duncan	No 4 (old)	rig
Mack, Fisher Brothers	No 19 (old)	rig
Kelly, A K	Darrow (shut down)	sand
Bowen lands, Phillips & Co,	(shut down)	600
Hinchey, McMurray Bros & Co	No 6 (old)	rig
Prain, Brinton &	Dale (old)	rig bldg
Warrant 2,258, Geo H Van	Vleck	drilling
Stinson, Asher Brown	No 9	1200
do do	No 10	rig bldg

Quintuple.

25, O H	Strong (old)	rig
44, J W	Humphrey (old)	rig
107, J S	Wilson	rig bldg
220, Clark, Stearns &	Co (old)	rig

New rigs	2
Old rigs and shut down	18
Drilling	3
Total	23

Kendall Creek.

Melvin, P C L &	P Co No 85 (old)	rig
do do	do No 86 (old)	rig
do do	do No 87 (old)	rig
Borden, Urquhart &	Lavens (old)	rig
Morton, Dan Clark	No 3 (old)	rig
do do	do No 4 (old)	rig
Willets, I	Willets (old)	rig

New rigs	0
Old rigs	7
Drilling	0
Total	7

Foster Brook.

E T Co, Boyne, Penny & Coleman No 11 (old) rig
do F L Blackmarr & Post No 5(old) rig
do Utter & Co (old) . . . . . rig
C B & H, Watson Oil Co No 33 (old) . rig
do do do No 34 (old) . rig
do Juter & Yager (old) . . . . . rig
do P W Bulger & Dana (fishing) sand

New rigs 0
Old rigs 6
Well drilling 1
Total 7

Four Mile.

Van Campen Wm M Brown (old) . . . rig
do Merrill & Perrin (old) . . rig
do Geo Van Campen & Sons No 21 (old) . . . . . rig
do Geo Van Campen & Sons No 22 (old) . . . . . rig
do Gregg, Cadwell & Co No 5 400
do Gregg, Cadwell & Co No 6 (old) rig
do Wm Doe No 6 600
do do No 7 . . . . . rig bldg
Waters, Griffin & Howard No 2 (old) . rig
C B & H, James Smith (old) . . . . . rig
Stevens, Burns Bros . . . . . drilling

New rigs 1
Old rigs 7
Drilling. 3
Total. 11

Indian Creek.

Barse, Union Oil Co No 36 (old) . . . . rig
North Branch, J D Downing & Co (old) 2 rigs
Hamlin, Miller & Odell No 4 (old) . . rig
Zimmer, Shear Bros (old) . . . . . 2 rigs
Morse, Morse & Brown (old) . . . . . rig
Miles Loop, Union Oil Co No 25 (old) rig
Gale, Mallory & Co (shut down) . . . 400

New rigs 1
Old rigs 7
Drilling 1
Total 9

Cole Creek.

Rew, Capt E Frawley (old) . . . . . rig
Bingham, lot 537 Union Oil Co No 31 (old) rig
do lot 550 do No 32 (old) rig
do lot 495 do No 3 (old) rig
do lot 579 do No 13, sand
do lot 570 do No 14, drilling
do lot 570 do No 15, 1500
do lot 570 do No 16, rig
do lot 570 do No 17, rig
do lot 570 do No 18, rig
do lot 570 do No 19, rig
do lot 578 do No 20, rig
do lot 578 do No 21,rig bldg
do lot 575 do No 22,rig bldg
do lot 567 Associated Producers No 34, 900
do lot 566 do No 37, rig
do lot 583 do No 38, rig
do lot 592 do No 39, rig
do lot 590 do No 40, rig
do lot 557 Rose & Byron (old). . rig
do lot 557 do . . . . rig
do lot 567 Rose, Byron & McLeod(old) . . . rig
do —— Rose & McLeod No 6, 500
do lot 546 C P Byron . . . . . rig bldg
do lot 590 Bayne & Fuller . . . 800
do lot 594 do . . . 50
do lot 593 T J Melvin . . . . . rig

New rigs 14
Old rigs 6
Drilling 7
Total 27

Kinzua.

Bingham, Union Oil Co No 56 (old) . . rig
do Emery Oil CoNo 40 (old) . . rig
Niles Tract, Chapin & Co 400

New rigs 0
Old rigs 2
Drilling 1
Total 3

Miscellaneous.

Fuller lot, Sugar Run, Sherman & Co . . . 600
—— do J L McKinney & Co . rig

New rigs 1
Old rigs 0
Drilling 1
Total 2

Warren and Forest.

Glade and Other Towns.

Fuller farm, Kinzua, Jas Parker & Co.. shut down) 500
Swift farm, Kinzua, Jas Parker & Co., 300
Milton Harris, Kinzua, Brown . . . . rig
Wm Harris, Kinzua, Pittsburg parties rig
554?, (Elk twp) Schnur & Robbins (old) rig
Cobham, Union Oil Co No 13 (old) . . rig
Cobham, Union Oil Co No 21 . . . sand
Foster, Wesley Chambers No 1 (old) . rig
Davis, Davis Bros . . . . . drilling
Rankin, Hue & Hand . . . . . rig
Nesmith, Best & Co . . . . . rig
Shultz, Shultz & Co . . . . . rig
Near Cemetery, S A Logan . . . . . rig
McWilliams, Pickett & Co . . . . . rig
Lacey, Butts, Harley & Waugeman No 1 . . . . . drilling
Rogers, Barnsdall Brothers No 14 (old) rig
do do No 15 (old) rig
do do No 16 (old) rig

New rigs 7
Old rigs 7
Drilling 4
Total 18

Clarendon.

Saw Mill lot, Armstrong & Co . . . . . rig
53, Union Oil Co No 21 500
Stonehill, John Bell . . . . . sand
54, D Beatty & Son No 36 (old) . . . rig
78. do do (old) . . . . . 2 rigs
463, Steelsmith & Co No 2 . . . . . rig bldg
464, King & Magee No 1 800
464, King & Magee No 2 . . . . . rig
464, A Branch & Co No 1 100
464, Columbia Oil Co No 17 (old) . . . rig
466, J Smith & Son No 8 . . . . . rig bldg
499, Munro & Finnegan No 4 . . . . . rig
499, do No 5 . . . . . rig bldg
499, E O'Donnel No 2 . . . . . drilling
499, do No 3 . . . . . rig bldg
526, E O Emerson No 6 . . . . . drilling
526, do No 7 . . . . . rig
499, do No 8 . . . . . rig bldg
106, Golden & Co (old) . . . . . rig
108, C H Filkins (old) . . . . . rig
495, W W Ballard No 4 (old) . . . . . rig
527, Goal Bros No 3 200
527, do No 4 (old) . . . . . rig
527, do No 5 . . . . . rig
527, do No 6 . . . . . rig bldg
561, F H Rockwell & Co No 13 (old) . rig
583, do No 14 (old) . rig
583, do No 15 (old) . rig
583, do No 16 (old) . rig
557, Dyson & Lowden No 7 . . . . . rig
590, Clark & Co No 2 . . . . . sand

New rigs , ... 12
Old rigs 12
Drilling. 9
Total 33

Tiona.

59, Fertig & Henne (shut down) . . . sand
75, do (shut down) . . . sand
110, do (old) . . . . . 2 rigs
110, do . . . . . rig
109, J S Patterson No 31 (old) . . . . rig
109, Schonblom & Townsend No 8 (old) rig
161, Helm & Mealey (old) . . . . . rig
164, Hill & Powell . . . . . rig
164, do . . . . . rig
165, Whitehill & Co No 7 . . . . . rig
165, do do No 8 . . . . . rig bldg
201, W Chambers No 1 . . . . . drilling
201, do No 2 . . . . . rig
201, L H Best No 2 200
204, W J Wood & Co No 2 225
204, do No 3 . . . . . rig
204, do No 4 . . . . . rig bldg
204, Mandell Oil Co No 3 100
204, Mandell Oil Co No 4 . . . . . rig
204, Walter Clark 100
204, Booth, Bovaird & Seyfang No 9 . . 600
204, do No 10 . rig
241, F W Winger, No 5 100
241, L Kraeer & Co No 3 900
241, do No 4 . . . . . rig
242, E O Emerson No 1 100

New rigs 10
Old rigs 8
Drilling 9
Total 27

Cooper District.

Lot 438, Shank & Emery No 23 (old) . . rig
Cooper tract, Lot A, C Campbell & Co, rig
3193 lot B, Melvin, Walker & Co . . . drilling

New rigs 1
Old rigs 1
Drilling 1
Total 3

Balltown.

733, Porcupine Oil Co No 31 (old) . . rig
3194, do No 21 (old) . . rig
3195, Proper Reserve Oil Co No 6 (shut down) . . . sand
3195, Proper Reserve Oil Co No 7 (old) rig
4821, Balltown Oil Co No 23 (old) . . . rig
4821, do do No 24 (old) . . . rig
4821, do do No 25 (old(. . . rig
4792, Howe Oil Co No 17 (old) . . . . rig
4792, do do No 18 (old) . . . . rig
5215, May, Kelly & Grandin (old) . . . rig

New rigs 1
Old rigs 8
Drilling 1
Total 10

Miscellaneous.

Forest, 5214, J Goff & Co (shut down) 1100
Warren, Grand Valley, W W Hague . rig bldg

New rigs 1
Old rigs 0
Drilling 1
Total 2

Lower Country

Venango.

Button, J B Smithman 900
do do . . . . . rig bldg
Galey, Denison & Co 300
Gales, J J Fisher . . . . . rig bldg
McCalmont, S P McCalmont No 6 . . drilling
do do No 7 (old) rig
Blood, William Baker No 3 . . . . . drilling
Pithole Creek, Sam. Hancock (old) . . rig bldg
O Lain, Playford & Co (old) . . . . . rig
Diamond, Darr & Manning No 6 . . . rig
McCormack, T H Phinney . . . . . rig
Thomas Tarr, Joseph Gray . . . . . drilliug
Kauffman, A P Dale . . . . . rig
Keaberline, Oil City Fuel Supply Co (for gas) . . . 500
Sugar Creek, McElhany & Maloney . . rig

Vicinity Emlenton.

Robinson, Gorman . . . . . rig
Ritchie, Eben Crawford (old). . . . . rig
Shippen, Emlenton Gas Co (for gas) . . rig
Hannah Sloan, Dr Hamilton 800
S. P McCalmont, Wallrabenstein . . 1000

New Rigs 8
Old Rigs 4
Wells drilling 8
Total 20

Clarion.

Mike Starr, Joel, Baum & Co 900
Amsler, Amsler Bros 400
Young, Young Farm Oil Co 350
do Kahl Bros 300
d› M Keever & Co . . . . . drilling
Deitrick, A Barber . . . . . drilling
Berlin, Patterson & Leedom . . . . . rig
Deitrick, Yonker & Deitrick . . . . . rig
do Swartzfeger & Co . . . . . rig
Frederick, White & Booth . . . . . rig bldg
Young, Cogley Run Oil Co . . . . . rig bldg
Wagner, Jacob Hahn . . . . . drilling
Panton, Panton 200
Goughler, M R Martin 200
Smith, Jacob Hahn . . . . . rig
Tole, do . . . . . rig

New rigs 7
Old rigs . . . . . —
Drilling 9
Total 16

Butler and Armstrong—Various Sections.

Mt Chestnut, McTamany & Co . . . rig
Washington Twp Clark farm, Unknown . . . . . rig
Clay, Queen Bros . . . . . sand
Pontius. Hunter & Cummings 150
Black, Black & Co (fishing) 400
Gallagher, Hunter & Cummings 1600
Neff, Phillips Bros No 2 . . . . . rig
Crouse, do . . . . . rig
Muenster, do No 5 700
do do . . . . . rig
Oswald, do . . . . . rig bldg
Bannon, Beatty & Bovard . . . . . rig
Kelly Station, Fertig, Pitts & Allhouse 1200
Turner, J W McKee No 3 . . . . . drilling
Graveyard lot, W A Kelley, ... 600
Archibald Kelly, Hooks Bros No 3 . . . 700
do Adams & Co (old . . . rig
Abner Kelly, Meldren Bros No 1 . . . sand
do Port Kelley . . . . . rig
Thos Kelly, Conley, Butler & Manifold drilling
Bredin, Rigney & Co (old) . . . . . rig

L Witt, Dale, Larkin & Co . . . . . rig bldg
do H McGuire & Co, No 6 . . . 550
Balph, M K McMullen . . . . . rig
Daubenspeck, Wheeler & Story . . . drilling
Hilliards, Southern Oil & Transportation Co . . . . . rig
Callery Station, Pittsburg Parties . . rig

Thorn Creek.

Wallace, Fisher Oil Co., No 18 1550
do do No 19 1000
Marshall do No 7 1300
do do No 9 . . . sand
do do No 10 . . . . sand
do do No 11 1200
do do No 13 1300
do do No 14 1250
do do No 15 1200
do do No 16 850
do do No 17 1400
Scully, do 1300
Herman St'n, do . . . . . sand
Marshall, Armstrong, Boyd & Semple No 3(fishing) . . . . . sand
do do do No 4 1440
Mushrush, Phillips Bros No 5 1425
do do No 6 1000
do do No 7 600
do do No 8 150
do do No 9 . . . . . rig
do do No 10 . . . . rig bldg
Dunlap, do No 1 . . . . . rig
Girard, do 500
Kennedy, Assoc'd Producers Co No 3 . 1230
do do No 8 . 1240
do do No 11 1300
do do No 12 1500
do do No 13 700
do do No 17 rig
Sutton & Scully do No 4 1300
do do No 9 1325
do do No 10 650
do do No 18 50
do do No 19 100
do do No 20 rig
Scully, do No 6 1150
Buhl, do No 7 1100
do do No 14 rig
do do No 16 rig
do do No 21 rig
Breden, do No 15 700
Girard, Allshouse 1550
Brackney, Chas L Jones (abd) . . . . rig bldg
Thos Graham, Baldridge Oil Co (old) . rig
Lavery, Conners & Fishel No 1 (old) . rig
do do No 2 (old) . rig
do J H Markham 1700
Alexander Welsh, Christy Bros 1500
Wm Kennedy, S W Harley, agt 1500
Kersting, Sutton & Harper 1400
Rankin, McBride & Campbell No 1 . . 1100
Mangel, Murphy No 1 . . . . . sand
do do No 2 250
do do No 3 1100
do do No 4 50
do do No 5 400
do Thompson & Bolard . . . . . rig bldg
do Greenlee & Co . . . . . rig
Reibold Painter & Tinsman 1425
Crawford, James Gillespie & Co (fishing 600
Girard, J H Markham 400
do I E Ackerly & Co 1000
Noel, H H Stowe 100
Kennedy, Christie Bros No 1 . . . . . rig
Bartley, do No 5 50
Mates, Kifer & Co . . . . . rig
I Wise, Frederick & Campbell . . . . rig

New Rigs 27
Old Rigs 4
Wells drilling 63
Total 94

FIELD OPERATIONS SUMMARIZED.

Wells Completed, With the Estimated Production on the Last Day of the Month.

ALLEGANY.

Division of Field.	FEBRUARY, 1885. Wells.	Prod'n.	Dry.	JANUARY, 1885. Wells.	Prod'n.	Dry.
Scio	0	0	0	1	5	0
Alma	2	2	1	3	13	0
Wirt	3	13	1	6	10	4
Bolivar	0	0	0	1	2	0
Clarksville	0	0	0	2	5	1
Genesee	0	0	0	0	0	0
Miscellaneous	1	0	1	1	0	1
Total	6	15	3	14	35	6

BRADFORD FIELD.

Division of Field.	FEBRUARY, 1885. Wells.	Prod'n.	Dry.	JANUARY, 1885. Wells.	Prod'n.	Dry.
E. & W. Branches	2	18	0	5	24	1
Kendall Creek	1	5	0	1	8	0
Foster Brook	0	0	0	1	10	0
Four Mile	0	0	0	0	0	0
Indian&Meeks Cr'ks	0	0	0	0	0	0
Cole Creek	3	20	0	8	165	1
Kinzua	6	228	0	0	0	0
Total	12	271	0	15	207	2

WARREN AND FOREST.

District.	FEBRUARY. Wells.	Prod'n.	Dry.	JANUARY. Wells.	Prod'n.	Dry.
Glade	2	10	1	3	11	1
Clarendon	6	38	0	3	16	0
Tiona	9	56	0	9	64	0
Cooper	0	0	0	0	0	0
Balltown	1	20	0	1	75	0
Miscellaneous	1	0	1	2	0	2
Total	19	124	2	18	166	3

LOWER COUNTRY.

District.	FEBRUARY. Wells.	Prod'n.	Dry.	JANUARY. Wells.	Prod'n.	Dry.
Venango	10	88	2	9	32	3
Clarion	1	5	0	1	8	0
Butler and Armstrong	16	2313	3	22	2308	5
Total	27	2406	5	32	2348	8

GRAND SUMMARY.

District.	FEBRUARY. Wells.	Prod'n.	Dry.	JANUARY. Wells.	Prod'n.	Dry.
Allegany	6	15	3	14	35	6
Bradford	12	271	0	15	207	2
Warren and Forest	19	124	2	18	166	3
Lower Field	27	2406	5	32	2348	8
February Total	64	2816	10	79	2756	19
Jan. Total	79	2756	19			
Difference	15	60	9			

Rigs Up and Building.—Wells Drilling.

ALLEGANY FIELD.

Division of Field	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Scio	0	10	1	11	1	10	0	11
Alma	0	14	1	15	2	10	3	15
Wirt	0	4	4	8	2	4	4	10
Bolivar	0	12	2	14	0	12	1	13
Clarksville	1	3	1	5	0	3	2	5
Genesee	0	16	0	16	0	16	0	16
Miscellaneous	0	3	3	6	0	1	2	3
Total	1	62	12	75	5	56	12	73

BRADFORD FIELD.

Division of Field.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
E. & W. Branches	2	18	3	23	2	18	3	23
Kendall Creek	0	7	0	7	0	7	1	8
Foster Brook	0	6	1	7	0	6	1	7
Four Mile	1	7	3	11	0	8	2	10
Indian Creek	1	7	1	9	1	8	1	10
Cole Creek	14	6	7	27	8	4	4	16
Kinzua	0	2	1	3	1	2	0	3
Miscellaneous	1	0	1	2	0	0	0	0
Total	19	53	17	89	12	53	12	77

WARREN AND FOREST.

Division of Field.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Glade	7	7	4	18	6	8	2	16
Clarendon	12	12	9	33	5	11	6	22
Tiona	10	8	9	27	9	7	10	26
Cooper	1	1	1	3	2	1	0	3
Balltown	1	8	1	10	0	9	1	10
Miscellaneous	1	0	1	2	0	0	2	2
Total	32	36	25	93	22	36	21	79

LOWER COUNTRY.

Division of Field.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Venango	8	4	8	20	8	5	12	25
Clarion	7	0	9	16	5	2	2	9
Butler & Armstrong	27	4	63	94	17	4	54	75
Total	42	8	80	130	30	11	68	109

GRAND SUMMARY.

Field.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 1, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Allegany	1	62	12	75	5	56	12	73
Bradford	19	53	17	89	12	53	12	77
Warren & Forest	32	36	25	93	22	36	21	79
Lower Country	42	8	80	130	30	11	68	109
Total Feb. 28, '85	94	159	134	387	69	156	113	338
Total Feb. 1	69	156	113	338				
Increase	25	3	21	49				

STOCKS ABROAD.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

Stocks Afloat and Ashore.	Feb. 21, 1885. Barrels.	Jan. 24, 1885. Barrels.
London	103,156	130,903
Trieste	29,662	41,723
Seven Continental Ports	914,811	1,051,947
Total Stocks afloat and ashore	1,047,629	1,224,573
Decrease in Stocks since January 24	176,944	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1884. The shipments represent the amount of oil going to the interior of Europe from the seaports.

STOCKS IN FOREIGN PORTS FEBRUARY 21, 1885.

	Stocks W'k end'g Feb. 21.		Stocks Afloat W'k end'g Feb. 21.		Loading. W'k end'g Feb 21		Grand Total Stocks Afloat & Loading.		Receipts. From July 1.		Shipments From July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	316,521	67,976	27,264	18,680	16,800	16,500	360,585	103,156	396,756	404,027	436,954	434,345
Trieste	43,587	24,977	25,416	4,685	. . .	. . .	69,003	29,662	159,549	119,596	140,113	110,997
Bremen	763,988	424,923	31,038	. . .	21,500	25,000	816,526	449,923	597,427	430,965	728,066	802,623
Hamburg	56,031	82,481	88,615	55,191	85,800	7,000	230,446	144,672	496,487	712,031	773,563	802,095
Antwerp	122,351	89,200	31,452	31,162	14,500	38,300	168,303	158,662	631,765	783,995	719,792	820,765
Rotterdam	40,967	48,581	12,220	. . .	5,000	. . .	58,187	48,581	137,928	167,194	172,147	176,557
Amsterdam	52,848	21,152	23,558	42,168	14,500	. . .	90,906	63,320	199,317	157,435	183,310	179,293
Stettin	28,780	25,830	4,000	5,216	. . .	8,500	32,780	39,546	169,471	202,222	209,032	218,010
Danzig	4,499	4,204	. . .	5,903	. . .	. . .	4,499	10,107	57,042	60,930	64,294	68,665
Total	1,069,464	696,371	190,883	139,640	141,300	78,800	1,401,647	914,811	2,289,437	2,514,772	2,850,204	3,068,008

	1882.	1883.	1884.	1885.
Total stocks exclusive Trieste	955,855	1,296,272	1,385,985	764,347
Total afloat, exclusive Trieste	143,151	169,460	218,147	158,320
Total loading, exclusive Danzig, London and Trieste	214,600	205,600	158,100	95,300
Total	1,313,606	1,671,332	1,762,232	1,017,967
Afloat and loading for direct Continental Ports	1,900	. . . .	95,300	19,500
" " " Baltic Sea, exclusive Stettin and Danzig	13,200	8,200	2,500	7,500
" " " English harbors, exclusive London	78,000	154,200	49,000	60,200
Grand Total	1,406,706	1,833,732	1,909,032	1,105,167

OFFICIAL STATEMENT, EXPORTS OF PETROLEUM, JANUARY, 1885.

BY JOSEPH NIMMO, JR., CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., MARCH 6, 1885.

CUSTOMS DISTRICT.	MINERAL CRUDE.		NAPHTHAS.		ILLUMINATING.		LUBRICATING AND PARAFFINE OIL.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
Boston & Charlestown Mass	. . . .	. . . .	. . . .	. . . .	411,490	44,032	19,473	4,123	. . . .	. . . .	430,963	48,155
New York, N. Y.	5,290,675	374,477	1,070,337	96,640	23,918,652	2,153,213	954,742	212,610	256,452	14,523	31,490,858	2,851,463
Philadelphia, Pa.	1,927,582	139,454	. . . .	. . . .	2,666,078	231,137	23,166	2,934	. . . .	. . . .	4,616,826	373,525
Baltimore, Md.	. . . .	. . . .	. . . .	. . . .	156,323	12,788	. . . .	. . . .	270,942	12,413	427,265	25,201
San Francisco, Cal.	. . . .	. . . .	. . . .	. . . .	21,460	4,990	4,246	2,248	. . . .	. . . .	25,706	7,238
All other districts	. . . .	. . . .	4,386	516	211,741	25,291	1,493	608	42	7	217,662	26,422
Total for Jan., 1885	7,218,257	513,931	1,074,723	97,156	27,385,744	2,471,451	1,003,120	222,523	527,436	26,943	37,209,280	3,332,004
Total for Jan., 1884	6,072,382	507,878	771,917	57,255	25,099,104	2,454,179	1,385,114	257,744	162,162	8,727	33,490,679	3,285,783
Total for 7 months ended Jan. 31, 1885	54,852,164	3,986,776	10,839,551	890,840	277,258,751	24,382,014	7,171,744	1,491,328	3,455,214	189,916	353,577,424	30,940,874
Total for 7 months ended Jan. 31, 1884	41,213,223	3,180,887	11,905,735	791,062	256,737,279	23,108,239	6,084,092	1,262,786	3,083,766	196,780	319,024,095	28,539,754

CRUDE QUOTATIONS FOR FEBRUARY, 1885.

Day of Week.	Day of Month.	Bradford. Opened.	Highest.	Lowest.	Closed.	Oil City. Opened.	Highest.	Lowest.	Closed.	New York. Opened.	Highest.	Lowest.	Closed.	Pittsburgh. Opened.	Highest.	Lowest.	Closed.
M	2	69¼	69⅜	68¾	68⅞	69½	69⅝	68¾	68⅞	69⅜	69⅜	68⅝	68¾	69¼	69⅜	68¾	68⅞
T	3	68⅞	69¼	68⅞	69	69	69⅜	68⅞	69	68⅞	69¼	68¾	69⅛	69	69¼	68⅞	69⅛
W	4	69⅛	69⅛	68⅞	69	69¼	69¼	69	68⅞	69¼	69¼	68⅞	69⅛	69	69¼	69⅛	69
T	5	68¾	69⅜	68¾	69⅛	68½	69½	68½	69¼	68¾	69½	68¾	69⅛	69	69½	68⅞	69¼
F	6	69⅜	69½	69⅛	69¼	69⅜	69½	69¼	69¼	69⅜	69⅜	69⅛	69¼	69½	69½	69¼	69¼
S	7	69⅜	73⅞	69⅜	71¾	69½	74	69½	71⅞	69⅜	73¾	69⅜	71⅝	69⅜	74⅜	69⅜	71¾
M	9	72	72¼	70½	70⅝	72	72¼	70⅝	70⅝	72	72⅛	70½	70⅝	72	72¼	70⅝	70⅝
T	10	70⅞	71	69⅞	70¾	71¼	71¼	69⅞	70⅜	70¾	71⅛	70⅛	70⅝	71	71	70	70¾
W	11	71	71½	70¾	71⅛	70½	71⅝	70½	71⅛	71⅛	71⅝	70¾	70⅞	71¼	71½	70¾	71⅛
T	12	71⅛	71¼	70½	70⅝	71¼	71⅜	70½	70⅝	71¼	71¼	70⅜	70⅝	71¼	71⅜	70½	70⅝
F	13	70½	70½	69⅞	70	70¾	70¾	69⅞	69⅞	70⅝	70⅝	69¾	70	70½	70½	70	70
S	14	69⅞	72	69⅛	69⅞	69⅛	72⅜	69⅛	70	69¾	72¼	69⅛	69⅞	69⅞	72¼	69¼	69⅞
M	16	70	71½	70	71	70	71⅝	70	71	70¼	71½	70⅛	70⅞	70	71⅝	70	70⅞
T	17	71	72⅜	71	72⅛	71	72⅜	71	72⅛	71⅛	72⅜	71⅛	72¼	71¼	71¼	72⅜	72¼
W	18	72⅜	72½	71⅛	71½	72½	72¾	71¼	71½	72⅜	72½	71¼	71⅜	72⅜	72⅜	71⅛	71⅜
T	19	71⅜	72¾	71¼	72¼	71⅝	72¾	71¼	72⅜	71½	72¾	71⅜	72⅜	71½	72⅝	71¼	72⅜
F	20	72¾	76¼	72½	75⅞	72⅜	76¼	72⅜	76¼	72¾	75⅞	72½	75¾	72½	76	72½	76
S	21	77½	78⅛	76½	76¾	78	78¼	76½	76⅞	76½	78⅛	76½	76⅞	77	78⅜	76⅝	77
M	23	HOLIDAY.				HOLIDAY.				HOLIDAY.				HOLIDAY.			
T	24	77½	79	76⅜	78¾	77½	78¼	76¼	78⅛	78	78¼	76½	78	77¾	78¼	76½	78¼
W	25	79½	81⅝	79	81⅝	78¾	81⅜	78¾	81½	79	81⅜	78⅞	81⅜	79½	81¼	79	81¼
T	26	82½	85	80⅞	82⅜	82½	85⅛	81	82¼	82½	84¾	81	82¼	82	84⅞	81	82⅜
F	27	82	82⅞	79½	80	82	83	79¼	80	82¼	82⅞	79¾	80¼	82½	82⅞	79¾	80⅛
S	28	80¾	82¼	80½	81¾	80⅜	82⅜	80⅜	81¾	80½	82¼	80½	81⅞	80½	82	80½	81⅞

STOCKS IN THE REGION END OF EACH MONTH FOR 15 YEARS.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
January	340,154	537,751	532,971	1,183,728	1,918,919	4,104,703	3,603,203	2,983,231
February	342,390	587,021	579,793	1,263,373	2,283,032	4,496,751	3,734,835	3,335,770
March	351,474	642,000	662,497	1,244,657	2,648,210	4,592,364	3,753,513	3,394,011
April	328,609	771,000	877,832	1,178,643	2,623,534	4,537,843	3,940,109	3,423,675
May	329,908	605,000	950,803	1,192,541	2,594,286	4,552,672	4,032,126	3,304,302
June	351,168	554,000	1,010,302	1,324,493	2,701,625	4,502,896	4,847,301	3,046,389
July	321,840	511,220	990,229	1,433,620	2,279,479	4,386,720	3,500,612	3,162,574
August	356,908	530,146	997,126	1,513,890	2,932,444	4,223,397	3,182,160	2,914,499
September	419,477	541,300	951,410	1,521,185	2,758,504	3,812,945	3,011,004	2,549,460
October	473,896	495,102	914,423	1,452,77	3,134,902	3,672,101	3,180,983	2,545,423
November	576,614	502,960	886,907	1,493,875	3,449,845	3,701,235	3,142,397	2,474,490
December	544,626	532,000	1,084,423	1,625,157	3,705,639	3,672,077	2,816,870	3,086,972

	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
January	3,342,090	5,259,289	8,984,341	17,989,168	25,788,071	34,952,645	35,834,930	36,693,112
February	3,361,650	5,734,155	9,495,240	18,971,376	26,329,098	34,514,919	36,047,915	36,316,806
March	4,218,518	6,234,842	9,834,457	20,048,772	27,255,326	35,594,680	36,206,626	
April	4,640,852	6,638,691	11,001,304	20,771,342	27,959,884	35,500,859	38,152,546	
May	4,908,450	6,838,762	11,737,890	22,108,640	28,833,715	35,642,245	38,475,528	
June	4,983,145	7,104,347	12,720,220	23,192,207	29,402,854	35,985,935	38,665,848	
July	5,064,158	7,193,137	13,606,369	23,765,140	30,251,302	36,371,939	38,98 ,911	
August	4,653,525	7,278,023	14,383,551	24,645,792	31,223,863	36,102,886	39,086,004	
September	4,653,525	7,493,752	15 249,661	25,052,082	32,066,007	35,752,718	38,740,722	
October	4,296,769	7,692,990	15,678 127	25,221,534	32,891,916	35,617,037	38,123,746	
November	4,364,909	8,138,767	16,402,431	25,302,647	33,439,450	35,495,236	37,857,193	
December	4,506,492	8,552,256	17,145,104	25,761,051	34,335,144	35,715,565	36,872,892	

AMOUNT and VALUE EXPORTS PETROLEUM and PETROLEUM PRODUCTS FROM THE UNITED STATES, 1881 - 1885.

	1881.		1882.		1883.		1884.		1885.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
January	18,458,954	2,066,227	30,248,954	2,759,087	38,490,505	3,505,953	33,490,679	3,285,783	37,209,280	3,332,004
February	24,197,966	2,524,055	28,753,191	2,680,861	29,209,791	2,683,721	31,459,563	3,147,812		
March	32,121,959	3,285,066	40,378,457	3,753,706	36,309,101	3,423,136	33,227,632	3,292,252		
April	28,008,421	2,752,729	47,273,230	4,185,955	34,614,936	3,172,492	33,261,835	3,292,426		
May	35,025,896	3,361,155	44,452,727	4,168,930	61,067,399	5,412,128	43,785,070	4,072,761		
June	61,966,601	5,553,258	54,066,294	4,669,564	47,923,099	4,305,086	52,910,587	4,758,243		
July	51,019,204	4,634,801	50,914,823	5,128,313	47,699,387	4,179,237	52,470,018	4,643,001		
August	66,280,465	5,962,949	44,011,074	3,599,440	49,580,807	4,229,292	40,498,120	4,113,850		
September	51,398,719	4,762,711	41,954,730	3,410,955	55,385,030	4,773,490	57,369,034	4,961,345		
October	54,244,846	5,062,724	45,400,263	4,004,179	48,326,250	4,233,210	60,234,667	5,168,653		
November	46,587,631	4,399,988	35,849,016	3,308,120	46,956,205	4,212,238	50,646,893	4,383,921		
December	45,250,872	4,140,430	30,201,639	2,952,914	37,574,408	3,625,056	49,132,009	4,335,372		
Total	514,561,544	48,556,103	503,501,128	44,623,024	532,736,948	47,762,039	538,486,157	49,455,419		

AVERAGE DAILY RUNS BY DISTRICTS, 1882–85.

	Bradford	Allegany	Cherry Grove	Cooper	Balltown	Wardwell	Baldridge	All Other Fields	Total for Entire Country.
January 1882	55,006	7,222	....	....	....	....	....	11,541	73,769
February	63,313	9,512	....	....	....	....	....	10,722	83,547
March	58,078	14,760	....	....	....	....	....	10,894	83,732
April	53,108	17,622	....	....	....	....	....	10,395	81,129
May	55,955	19,522	218	....	....	....	....	11,262	86,957
June	56,016	22,765	3,037	....	....	....	....	13,968	95,785
July	52,456	23,884	8,655	....	....	....	....	19,311	104,306
August	49,711	20,814	24,315	....	....	....	....	10,985	105,826
September	46,585	16,387	23,002	....	....	....	....	10,567	96,545
October	42,107	19,964	9,363	120	....	....	....	14,286	85,841
November	41,404	16 993	4,886	294	....	....	....	10,012	74,580
December	39,580	14,020	3,180	559	87	....	....	14,993	72,419
January 1883	36,847	14,106	3,313	1,632	334	....	....	8,893	65,125
February	38,481	13,154	2,954	1,475	332	....	....	8,812	65,208
March	37,754	12,619	2,706	1,737	368	....	....	9,220	64,404
April	38,810	13,742	2,604	3,802	840	....	....	9,409	69,207
May	39,039	13,793	2,207	3,829	952	....	....	9,625	69,445
June	38,614	13,499	2,215	4,199	1,961	....	....	9,955	70,443
July	36,489	12,381	1,891	3,467	1,944	....	....	9,456	65,628
August	37,165	12,743	1,935	3,166	3,078	....	....	10,790	68,877
September	35,894	12,358	1,612	3,200	3,723	....	....	9,423	66,210
October	35,054	12,757	1,312	3,314	4,298	....	....	10,314	67,649
November	34,516	12,332	1,090	3,251	3,807	....	....	10,285	65,281
December	32,650	11,752	1,061	2,876	3,766	....	....	10,725	62,830
January 1884	31,020	11,018	767	2,908	2,808	....	....	9,657	58,178
February	33,987	12,025	968	3,743	2,816	....	....	11,034	64,573
March	33,049	11,777	1,001	4,631	2,813	....	....	11,319	64,590
April	34,370	12,261	1,039	4,229	2,399	475	844	10,176	65,793
May	34,946	12,193	968	3,468	2,260	1,015	1,061	10,777	66,688
June	35,701	11,672	845	2,985	2,250	2,042	969	10,886	67,350
July	34,718	11,114	533	2,476	2,471	4,277	889	10,224	66,702
August	33,782	10,384	665	2,046	2,189	6,483	843	10.604	66,996
September	33,449	9,989	653	2,155	2,115	4,056	2,644	10,891	65,952
October	31,500	8,802	446	1,811	1,781	2,201	6,034	10,489	63,064
November	29,552	8,642	423	1,302	1,401	1,346	9,493	9,592	61.751
December	30,632	8,193	407	1,246	1,189	979	8,730	10,367	61,743
January 1885	27,254	7,442	360	1,214	810	977	6,199	9,034	53,290
February	27,480	7,696	327	987	910	663	7,349	9,564	54,976

FEBRUARY PRODUCTION REPORT.

Reports from 6,026 Bradford wells, showed an average decrease of nine-tenths of a barrel to the well, during February.

Time.	No. Wells.	Gross Stocks.	Average per Well.
February 1, 1885	6,026	362,631	60.1
January 1, 1885	6,024	367,787	61.0
Difference	2	5,156	.9

The number of wells in the Bradford field connected with the pipe lines on the 1st of March is estimated at 13,360. Estimating the entire Bradford region on the basis of nine-tenths barrels decrease, the total decrease in stocks at wells during February, was 12,024 barrels, a daily average of 429 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for February is as follows:

	Barrels.
Average Daily Pipe Line Runs	27,480
Average Daily decrease of Stocks at Wells	429
Bradford's Feb. production, est.	27,051
do Jan. do do	28,675
Average daily decrease	1,624

This represents an average decrease of 1,624 barrels a day as compared with the January estimate.

THE ALLEGANY FIELD.

The stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per Well.
March 1, 1885	1,168	52,537	45.0
February 1, 1885	1,168	56,876	48.7
Difference	0	4,339	3.7

The wells from which reports were received, decreased their stocks 3.7 barrels. Assuming that they represent a fair average for the 3785 wells in the entire field on the first of March the total stocks in the field were decreased during February by 14,004 barrels. Or stocks at wells in Allegany field were decreased at the rate of 500 barrels a day during the past month. The pipe line runs were 7,696 barrels a day. Subtracting the decrease of stocks from the pipe line runs, Allegany's daily average production for February is 7,196 barrels, a decrease of 1,064 barrels a day from the estimate for January.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells. Feb. 1.	No. Wells. Mar. 1.	Average per Well. Feb. 1.	Average per Wel Mar. 1.
Clarendon & Tiona	142	142	52	55
Cherry Grove	51	51	84	91
Cooper District	177	177	87	82
Lower Country	104	85	101	73
Miscellaneous	144	145	139	131

Accepting the outside runs, which are partially made up of the Wardwell and Baldridge runs, as representing the production, an estimate on the yield of the field for February and January would be as follows:

Field.	Feb. Barrels.	Jan. Barrels.
Allegany	7,196	8,260
Bradford	27,051	28,675
Outside runs	19,800	18,594
Total	54,047	55,529

The above figures show a decrease in the production of 1,482 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885. No production reports of the field were published during the first six months of 1883, and the pipe line runs of Bradford and Allegany, are considered sufficient in the absence of more reliable data:

	Bradford		Allegany		Outside Runs		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
Jan.	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
Feb.	32,378	38,481	11,607	13,154	18,561	13,573	62,546	65,208
Mar.	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	339,22	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
Aug.	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
Sept.	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
Oct.	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
Nov.	31,789	35,026	8,642	12,678	23,557	18,433	63,988	66,137
Dec.	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
Jan.	28,675	31,806	8,260	11,264	18,594	16140	55,529	59,209
Feb.	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,546

The Baldridge and Thorn Creek runs increased at the rate of 1,150 barrels a day in February. During the same time Cherry Grove, Cooper and Balltown declined 160 and Wardwell 314 barrels per diem.

The production of the Bradford field in February is 1,624 barrels a day less than in January, and 5,327 barrels behind the output for February last year. Allegany dropped off 1,064 barrels a day in February, and falls short of the average for February, 1884, by 4,411 barrels. The entire region shows a decrease of 8,499 barrels per diem from the figures furnished by the production report for February one year ago.

DIXON & DAILEY have opened a branch office in Buffalo, and have added stocks and grain to their dealings in petroleum.

MARLIN & STEPHENSON are represented at Olean by C. H. Filkins, and have established an office in the Exchange bank building.

THE Wildwood Natural Gas Co., of Pittsburg, struck a heavy gasser March 7 in the "Mormon Valley," East End, at a depth of 1700 feet.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., APRIL, 1885. No. 3

ON THE ORIGIN OF GAS AND OIL.

EDITOR AGE:—I notice in your December number an article on natural gas, in which the writer states that the most reasonable theory advanced regarding its origin "is that gas is found in sand-rock or oil-rock only, as is salt-water; its presence there is owing to fracture of the rock below. All gas wells of great volume are supposed to be fissure wells, the gas being generated in the carbonaceous shale hundreds of feet below any of the oil producing sands."

There is another theory somewhat similar to this—that natural gas is formed by the decomposition of water down deep in the earth, and the hydrogen being set free takes on a sufficient amount of carbon for lighting purposes by passing up through fissures in the carbonaceous rocks. Finding the sand-rock cavities open receptacles, the gas enters and occupies the space until some driller punches a hole in the roof and sets it free. This seems to be the simplest of all theories and to that extent the best, besides it gives us the promise of a never ending supply. But whether *oil* could be formed in this way is not so clear, for the "water-gas" which this process might be supposed capable of producing and whose manufacture probably suggested the theory—contains too little carbon for even an illuminating gas. It is also open to the other objections which lie against the preceding theory.

Oil and natural gas possess so many properties in common, are so nearly identical in composition, and oil is so invarably charged with gas, holding it in combination or ready to burst into it from the liquid form, that they have been supposed to have a common origin. It is true gas has been found where oil has not, but if found in sand-rock, past experience would make it probable that oil exists in some part of the same rock. The gases found in shale rock have an odor peculiar to themselves, and if they have ever proved abundant producers, that fact is not generally known. Either sand-rock or a porous limestone seems to be a first necessity. The sand-rock oil has been supposed to be of vegetable origin, and that of the limestones of either vegetable or animal, such as mollusks, jelly fish, corals; but as to the process of nature's distillation all theories are at fault. Whichever one you adopt you will find it open to fatal objections.

Our sand-rocks are masses of washed and rounded pebbles, extending sometimes twenty miles in length and in greatest thickness approaching a hundred feet, thinned down at the edges into lens shaped masses, imbedded in sandy and clayey shales. They rarely lie horizontal, but are inclined—ten, twenty and even thirty feet to the mile. They are incased both top and bottom with a fine hard sand, closely compacted and difficult to drill. Not till this cap is pierced, sometimes to the depth of several feet, does the gas or oil show itself.

It seems almost incredible that a mass of this sand-rock could extend for miles without a fissure or seam, however soft may be the bed it lies on. But how else can we account for the immense pressure by which gas and oil make their escape—a pressure in some instances of more than 500 pounds to the square inch. Surely a force that lifts a column of water and oil two thousand feet high, exerting itself downward as well as upward, would drive the oil and salt water (which is always more or less in the rock), down to that distilling horizon where the force originated, to be redistilled and sent up again in form of vapor, and would leave our sand-rocks empty of all liquids. This could only be avoided by having the fractures on the top of the sand-rock, or on the uppermost edges, while the bottom remained a closed vessel. And even then the sand-rock overlying the sand, filled as it always is with joints and seams, would be so charged with gas that no drill could miss it, if, indeed, it did not rise to the surface, covering it with gas springs. With such a pressure and with such fractured rocks, our whole field would be steaming with gas jets, and not the oil field only but that great extent of country wherever carbonaceous shales exist. Explosions such as sometimes happen from leaky gas mains would occur in cellars all over the country. But with the rocks so fractured the pressure could never obtain, unless we place the fractured rocks all below our sand-rocks and unfractured rocks above them, while

the reverse of this would seem the more probable.

With this view we ought to find gas below the sand-rock. Instead of this the shales below contain no gas. Indeed, a large part of the Bradford field is underlaid with an open, coarse sand-rock equal in quality to the "regular third," about forty feet below it and from six to ten feet thick, but so far as known it contains but little gas or oil. If the ascending gases pass through this lower sand on their way up to the great reservoirs they leave very little trace of their passage.

Gas and oil springs are not unknown in the oil country. Indeed, they are often the first "pointers" to the wild-catter. But instead of existing indiscriminately over the field, they occur generally if not always along the edge of the belt of sand-rock and that, too, along the elevated side. The constant bubbling of gas in the Allegheny river at Foxburg marks almost exactly the northwest edge of the sand belt, and the oil or gas springs near Cuba, N. Y., can not be far from the northwestern edge of the Allegany oil field. As we know that this elevated edge is the gas edge of the sand-rock the inference would seem to be strong that this escaping gas comes from the oil sand-rock rather than from the general carboniferous shales, which might send forth their jets everywhere. But is not this in conflict with the theory of a sealed vessel in which the oil exists? Yes, to a degree; but only as the gentle escape of steam from the seams of a boiler conflict with the fact of great pressure within.

This edge of sand-rock could hardly escape more or less of fracture from the fact of the greater subsidence or compression of the shale rock by which it is enclosed, the sand-rock compressing but slightly, while the shale shrinks, according to Lyell, to one-third of its original thickness. Thus the movement along the edge of a sand-rock a hundred feet thick would be so great as not only to fracture the ragged edge of the sand but more or less disturb the rocks above, so far as they were deposited before the limit of a compression had been reached.

If our sand-rocks were ocean beaches, as many suppose, their formation was probably very slow, for it could only be brought about by the subsidence of the shore line, and if this subsidence were rapid the washed pebbles would be unable to keep up the level, and fine sand and clay would take their place. If we estimate the rate of subsidence according to the oscillations of ocean level taking place in historic times, as observed at Menai straits in England and on the western coast of South America, about a foot in a century is all we can count on. But as these beaches were imbedded in the carbonaceous shales extending down thousands of feet below (Rogers makes it about 14,000 feet), the greatest compression of these rocks would doubtless add materially to the rate of sinking—that is, of formation. But at all events, it must have been slow. And if you are to place the material for distillation of the oil in this pebbly mass of rock the apparent probability would be that decomposition of the vegetable or animal matter would go on quite as rapidly as the sands were accumulated and thus the gas or oil, if oil were possible, would have escaped in the open air or in the open sea, and left nothing but a barren sand-rock.

If we take the other view that the oil sand-rocks were deposited by great rivers pouring into a shallow sea, which our fine-grained Bradford sand would seem to indicate, the deposition may have been more rapid. According to surveys made on the Misssissippi delta, the yearly amount of silt carried to the Gulf of Mexico by the river is equal to a mass one mile square and 268 feet in thickness, and the river Ganges carries down an amount that would cover the same area 229 feet in thickness (see Dana), or say an average of 250 square miles one foot a year. If sand-rock could be accumulated at this rapid rate our Bradford sand could be laid down in course of about a hundred years, although ten times that period would seem to be much more probable. For this Mississippi sediment is chiefly held in suspension, while only about one-tenth of the amount is pushed by the current along the bed of the river, in which manner sands are mostly conveyed.

This silt is so loaded with vegetable matter that portions of the delta are described as being covered with "mud lumps," or heaps resembling hay-cocks in a meadow, several feet high and emitting gas from their summits, which gas (probably of the "marsh gas" series), has been seen in flame, giving appearance of miniature volcanoes, or, taken together, of a great smouldering crater. This is suggestive of the formation of oil, but suggestive also of the difficulty of retaining it—of bottling it up in the sand-rocks. The sand-rocks themselves, as Mr. Carll remarks, especially the Venango and Butler sands, contain no appearance of vegetable or animal remains—or at least not sufficient for the purpose. But this itself possibly proves too much. Could it be possible for a sand to be deposited in a sub-

tropical sea and contain so little organic matter? Is it not possible that the traces have been lost in the long period of distillation? The Bradford sand shows occasional white flakes resembling petrified shells, and the upper cap rock of close, hard sand is often a mass of imprints of shells and petrifactions. Some of the white sands of Warren county have the sand grains imbedded in a matrix of gray cement, of which a part seems to be lime. But in none of them do we discover what appears to be a sufficient source for the oil.

The sandy shales possess all of the advantage in point of theory filled as they often are with fossils and loaded as they probably once were with undistinguishable organic matter reduced to powder or pulp. But how have they so thoroughly emptied themselves, and left no trace of oil where sand-rocks do not exist? Why are their own cavities not filled with oil or gas, and their joints coated with paraffine? Instead of this they come out of the fiery furnace like the Hebrew children, without a smell upon their garments.

Who can solve the mystery? Who can empty the sand-rocks of the salt water in which it was first laid down and with which it must have first been filled, replace the water with gas, incase the rock with a shell impervious to both oil and water, and then destroy the traces of the matter from which the oil was distilled? Did it originate within the sand-rock or without it? In its immediate vicinity, or miles below? *Quien sabe.*

PRODUCER.

OIL REGION CHRONOLOGY FOR MARCH, 1885.

March 1. AGE oil report shows 64 wells completed in February; 10 dry holes; new production, 2816; new rigs up and building, 94; old rigs, 159; wells drilling, 134; total field operations, 387.

March 2. Market opened strong at 82¾, but fluctuations small and closed at same figures. Oil unusually scarce in New York and premiums ranging from 25 cents to $4.00 were paid for privilege of carrying it. Carrying rates to-day at Bradford, Oil City and Pittsburgh 30 to 45 cents. Trestle on the O, B. & W. R. R. gives way between Bells Camp and Red Rock. Engine and baggage car go down and are totally wrecked. Passenger car stopped on verge of the break. Miraculous escape of engineer and fireman. No one injured.

March 3. Market sagged off to 80 cents. Carrying flat in New York. In Oil City and Bradford 15 to 25 cents. Bradford C Co., of 16th Regiment, capture the Regimental colors by superior drilling at Washington. Death of Thomas E. Kern, oil editor of the Era.

March 4. Inauguration day.

March 5. Edward Riffle, a driller in the Macksburg field, killed by being caught in the bullwheel of a drilling well Eight-inch line of the Seaboard pipe line, bursts on the farm of Abraham Kreider, near Wrightsville, N. Y., and floods the surrounding fields. Set on fire by sparks from a passing locomotive and a terrific conflagration rages for twenty hours.

March 6. Henry Leidecker and Jefferson Way fall thirty feet, by breaking of board in derrick near Queenstown. Leidecker escaped with slight damage, but Way is believed to be seriously injured. J. B. McKinley, an employe of the Eclipse Oil works at Franklin, while unloading some cars, crushed to death between the bumpers. Burning of the Dunkirk House, Bradford. James Martin and Barney Freel burned in their beds. Loss, $5,000.

March 7. Lyman C. Blakeslee, superintendent of the P. C. L. & P. Co., dies of heart disease at 10 p, m., aged 62 years. Two tank cars filled with oil from Gantz well, shipped to Logan, Emery & Weaver, at Philadelphia, who pay one dollar a barrel for it. This is the first shipment of oil from Washington county.

March 9. James Baxter, while felling trees at Davis Shanty, on the O., B. & W. R. R., imprisoned for seven hours under a falling tree. Breaks an arm and a leg.

March 10. Explosion of 6,000 pounds of nitro-glycerine at the magazine of the Rock Glycerine Company near Custer City. Wm. H. Herrington and Herschel V. Pratt blown to atoms. C. R. Huntley, E. H. Jennings and Warren G. Gray go to Harrisburg as a Committee from the Bradford Exchange to convey opposition of the Exchange to the passage of House Bill No. 33.

March 11. Pipe line reports show average daily runs for February, 54,976; shipments, 67,667; stocks decrease 376,306 barrels.

March 12. Explosion of gas causes $35,000 fire in Olean.

March 13. Production of Thorn Creek increased to 10,208 bbls. National Transit Co.'s six-inch line from Carbon Centre to Bear Creek burst on Main street, Petrolia, at 6 p. m. Town flooded with crude. Danger soon over. Parker & Co.'s No. 2 well, Kinzua village, in sand. Mystified like No. 1. Market weak and closes at 77¼.

March 14. Alfred Smiley, of Foxburg, Pa., contracts with the English government to lay a pipe line in Soudan to supply the British army with water. Young Farm Oil Co.'s well at Cogley Run, Clarion county, through sand with 700 feet of oil in hole.

March 15. Partial eclipse of the sun. Market opens fair at 78, one-half cent above yesterday's closing figures, and closes at 78¼.

March 16. First election of officers of the Consolidated Exchanges at New York. Chas. G. Wilson elected President without opposition. Produce Exchange begins to deal in oil certifi-

cates. A bull ring is put up in corner of Exchange room, and special wires connect with the oil centres. First call of petroleum certificates on this board, 200,000 bbls. at 77¾@78¾. Peter Spargo, Postmaster at Edenburg, Clarion county, commits suicide by shooting himself through the heart. Frank Gardner, brakeman on the P. & E. R. R., killed at Kane by Peter Frank, of Smethport, in a drunken quarrel.

March 17. The big shot (100 quarts of nitroglycerine) is inserted in the Markham well. Reports from this well agitate Exchanges all day. First sales at 78⅛. About 1 p. m. a grand rally occurred that carried it up to 79⅝. Closes at 79⅞.

March 18. Market opened at 79⅝. Report that Markham well was shot and flowing caused a small break to 77¾. About 2 p. m. Markham was reported dry or nearly so, and there was a grand scramble that carried it up to 82 and closed it at 82¼. Thorn Creek has 73 producing wells, with gauge, 7,144 bbls. House Bill 33 passes to a second reading by a large majority.

March 19. Market opens firm, with sales at 83 cents, but the pronounced depression in railroad securities reflects upon petroleum, and a weaker feeling ensues. Breaks at 2 p. m. to 81⅜ and closes at 82⅛.

March 20. Mr. Vedder's bill in the New York Senate, prohibiting speculative dealing in stocks, oil certificates, etc., except where actual transfer of property takes place, taken up and ordered to a third reading. Market weaker.

March 21. Thermometer records 22° below zero at Bradford. Alton 30° below. Warren & Sugar Grove Railroad incorporated in New York State Legislature.

March 22. Small fire at No. 9, Whitney Place. Zero weather continues.

March 23. Mr. Kohler introduces a new pipe line bill, in the Ohio Legislature, as a substitute for the one defeated five weeks ago by the Senate.

March 24. Explosion of natural gas at Beaver Falls, Pa., demolishes a two-story frame house. James V. Leonard, a young man twenty years of age, suffocated in two feet of oil in a small tank, on lease of J. M. Tait, near Ritersville.

March 25. Kinzua village furnishes a little excitement in the "Bull dog" well, which is shut down in sand and spraying some oil. Mr. Willard White, of Boston, attempts the mystery manipulating dodge with a five-barrel well.

Union Oil Co.'s Nos. 1 and 2, Macksburg, shot and started at 125 and 150 bbls respectively.

March 26. Telegraph line put into the derrick at "Bull dog" well, Kinzua, and two-inch line laid and pump placed in position. Two tanks of 250 and 800 bbls. capacity erected at the well. Thos. A. Kane reported to have bought a million barrels of oil, at Oil City. Market closes at 83¾ cents.

March 27. Thos. A. Kane, of Oil City, lays down in the Oil City Exchange, and 575,000 bbls. of oil sold on his account. Market fell off to 80⅞, but recovered to 82¾. Complete fiasco of the Parker-White mystery at Kinzua village. Well drilled into sand and proves a very small affair. Markham well, Thorn Creek, pumping 90 to 100 bbls. a day.

March 28. Seventy-seven Thorn Creek wells gauge 5,876 bbls. 24 hours ending at 9 a. m.

March 29. Price's oil mills, a short distance from Woolwich, London, covering twelve acres of ground, completely destroyed by fire. Loss over $1,000,000.

March 30. Strike of compositors in Titusville Morning Herald office. F. A. Prentice, of Franklin, well-known oil producer and lumberman, killed at Guyandotte, W. Va., by accidental discharge of his revolver.

March 31. House Bill No. 33 defeated on its final passage by a vote of 87 to 76 in the Pennsylvania Legislature. Market advances three-quarters of a cent. Thorn Creek gauge, 6,330 bbls.

NOTES ON RUSSIAN PETROLEUM.

Mr. Boverton Redwood, Secretary of the London Petroleum Association, after personal inspection of the field, makes the following statement in regard to Russian oil:

The producing territory in Russia covers only a small area, not more than three and a half square miles, where flowing wells or fountains furnish illuminating and lubricating oil. The Peninsula of Apsheron projects in an easterly direction from the mainland of Trans-Caucasia, and on the southern shore of the bay thus formed lies the town of Baku. The petroleum deposits of Baku had probably been known for 2,500 years; the district had, undoubtedly, been frequented by the fire worshippers from the time of Zoroaster, who lived 600 years B. C. There still exists a temple where the petroleum gas, rising to the surface, was ignited by the fire worshippers, who termed the lights thus produced "the eternal fires." Describing the flowing wells, Mr. Redwood said one of them was opened in his presence, and immediately, with a roar, a column of oil a foot in diameter shot to a height of 100 feet, or more, continuing to flow as long as the valve remained open, and forming a lake of oil. One of the most famous wells, Droojba, flowed in this way for months, and was uncontrollable, the estimate being from 68,000,000 to 136,000,000 gallons were ejected. In consequence of the impossibility of storing it, the oil thus thrown out was practically unsaleable, at a time when the same quantity of American oil was worth in the United States between 700,000*l.* and 1.400,000*l.* sterling. The most productive well ever known in the United States flowed for a time at the rate of 260,000 gallons

per 24 hours, or only about one-eighth of the yield of the Droojba well. The production of crude petroleum for 1884 amounted in Russia to 1,130,000 tons, and in the United States to about 3,000,000 tons. The oil was at present conveyed from the wells at Baku to the refiners in pipe lines, having a carrying capacity of more than 700,000,000 gallons. The total quantity of refined kerosene manufactured in 1884 was 241,900 tons. Liquid fuel in the form of petroleum was used on more than one hundred steamers on the Caspian Sea, as well as in the locomotives on the Trans-Caucasian and other railways.

RUSSIAN KEROSENE VERSUS GAS.

The local authorities of the town of Northfleet, in Kent, have come to the conclusion that they can light their streets and public buildings more effectively and at a less cost with oil lamps than with the gas supplied by the local gas company; and it is significant of the rapid progress made in the introduction of Russian petroleum into England, that this oil has been selected in preference to others, after careful and exhaustive trials. The contract for the supply of oil has been taken by Messrs. Ragosine & Co., of London, Russian oil merchants and manufacturers, who were the first to introduce the Russian lubricating oils into England, and who appear to be taking the lead in the introduction of Russian kerosene.

PRODUCTION OF RUSSIAN PETROLEUM FROM 1863 TO 1883.

PRODUCTION AT BAKU.

Years.	Tons.	Barrels.
1863	5 500	38,500
1864	8,700	61,900
1865	8,900	62,300
1866	11,100	71,700
1867	16,100	112,700
1868	11,900	83,300
1869	27,180	190,260
1870	27,500	192,500
1871	22,200	155 400
1872	24,820	173,600
1873	64,000	448,000
1874	78,000	546,000
1875	94,000	658,300
1876	194,020	1,358,000
1877	242,000	1,694,000
1878	320,000	2,240,000
1879	370,000	2,590,000
1880	420,000	2,940,000
1881	490,000	3,430,000
1882	680,000	4,760,000
1883	800,000	5,600,000

PRODUCTION OF REFINED PETROLEUM.

1878	97,550	672,850
1879	110,000	770,000
1880	150,000	1,050,000
1881	183 000	1,281,000
1882	202,000	1,414,000
1883	206,000	1,442,000

The railway from Baku to the Black Sea was finished in June, 1883, and the outlet it furnishes to the trade has no doubt run the production up to 7,000,000 barrels in 1884, which will give for 300 working days, 23,000 barrels of crude oil per day. The crude oil yields on the average 30 per cent. of refined burning oil.

A correspondent of the New York *Shipping List*, writing from Smyrna, under date of Feb. 25th, says:

Owing to limited machinery means, the Russian producers could not even supply, a year and a half ago, their home consumption. Of late, considerable progress has been made. There are now many large and wealthy refineries in the Black Town of Baku, a railroad has been completed between that city and Batoum, and, to save expenses, petroleum is carried in tanks to the latter place. Batoum being a free port since the treaty of Berlin, has been chosen for making the tin cans and wooden cases that are exported to the Black Sea, and therefore to the Mediterranean; and along this road petroleum is beginning to pour into the countries washed by these seas.

Since March, 1884, the shipments from Batoum to Turkey in Europe and Turkey in Asia have supplied one-third of the consumption; Trieste has received two-thirds of its needs; and 1,000,000 gallons have reached London. Exports of the Caucasian article have also been made to Norway, Germany and Denmark. The demand has been such as to leave at Baku no stock of refined oil!

The Russian government helps with all its power the petroleum export business. The Russian Subventionated Steam Navigation Company has received orders to build, as soon as possible, cistern steamers, for the purpose of carrying petroleum at a cheap rate of freight to the Danube and Odessa, thus reaching Central Europe. They will also go to the Archipelago and Trieste, and a stock, it is said, will be held in the latter city, not only for the consumption of Southern Europe, but also for export to Africa, India, China, and Australia, by the Italian, Austrian, and subventionated German steamers.

The Russian refiners have lately held a few meetings with the object of connecting Baku and Batoum by a petroleum canal or pipe lines, and giving the Caucasian article all the necessary burning qualities. The Russian government is about to impose a certain standard "flashing-point," which is to be 30 degrees Centigrade. The refiners have in view to offer cheap and good oil, and thus supplant American petroleum in Europe, Africa and Asia. And in this, the Russian producers are not only favored by their government, but strongly by Germany.

Russian petroleum is actually worth one cent less than American oil, but, although its packing

and burning qualities are not so good, still it competes to advantage in all the countries that have adopted it. Now, in the near future, the quality and packing will undoubtedly be up to the standard, and lower prices are expected by the creation of the pipe lines and the help of cheap freights.

American producers and refiners must do their utmost to curtail Russian petroleum extension by selling their refined oil in cases and barrels at least two cents per gallon less than the actual rates. This is the only course left them to retain the American petroleum trade in its present influence; to cause the greatest discouragement in the hearts of Russian producers, who are convinced that American oil can not be sold at less; and finally, to prevent powerful capitalists from favoring Russian success by investing money in Russian petroleum undertakings.

NOTES ON NATURAL GAS.

MURRAYSVILLE.

There are ten producing gas wells within a half mile radius of the village of Murraysville in Westmoreland county. The first sunk was the famous Murraysville gasser, the scene of the riot that resulted in the brutal killing of Obadiah Haymaker. It was sunk by Haymaker, Brunot & Co., sold by them to the Penn Fuel Company and is now owned by the Fuel Gas Co., who pipe its product to Pittsburg. The Acme Gas Co. drilled the next well on the Long farm. It proved a small producer, and its product is consumed at the well. The Penn Fuel Co. (Pew & Emerson), sunk the next well, which is located on the Fundus tract. It was the first well that had its gas transported to Pittsburg, and is now the property of the Fuel Gas Co. While the Murraysville gas fever was at its height, Brown & Co. purchased the Hervey tract and began drilling a well. It proved a success, and the firm soon after commenced preparations to construct a pipe line. Pew & Emerson opposed the new line from the start, and when it had reached Monroeville, in Allegheny county, they secured an injunction to prevent its crossing the Cunningham farm. After considerable litigation all differences were amicably adjusted and the line completed. A second well was soon afterwards sunk by Brown & Co. on the Hervey tract.

When the Homewood field began to decline, the Westinghouse or Philadelphia Gas Co. came to Murraysville and purchased the Crider, Verner, Fundus and Meanor farms. They drilled a splendid gasser on the King tract within one hundred feet of the first Murraysville well. This company have a line to Verona, which connects with their main line to Pittsburg. They are now drilling a well on the Crider farm and are about to start another on the Fundus tract.

The Fuel Gas Co. have a good well on the Stewart farm and another on the Wolff. The last was finished a few weeks ago, and its product is piped through the "twin line," as the line laid by Brown & Co. is called. The Murraysville wells, in the order of their completion, with the farms on which they are located, are as follows:

Farm.	*Well*	*Present Owner.*
Remaly,	"The Burning Well,"	Fuel Gas Co
Long,	(Small gasser)	Acme Gas Co
Fundus,	Pew & Emerson	Fuel Gas Co
Hervey	Brown & Co	Fuel Gas Co
Verner		Phil. Gas Co
Hervey,	Brown & Co	Fuel Gas Co
Grier,	Pew & Emerson	Fuel Gas Co
King		Phil. Gas Co
Stewart		Fuel Gas Co
Wolff		Fuel Gas Co

HOMEWOOD.

The Homewood gas wells near Pittsburg are almost exhausted. It is stated that their decline is due to the fact of their never having been drilled deep enough to tap the permanent veins. The supply at the famous Westinghouse No. 1 has dwindled to such a low point that it is useless to pipe the discharge. Nos. 2 and 4 are also idle, while No. 3 furnishes but little gas. Nos. 5 and 6 are still fair wells. The flow at the Dilworth and Penn Fuel wells has almost died out. The Morton well, at Four Mile run, is likewise very small and is being drilled deeper, on the theory that its first supply came from small veins in rocks whose structural composition forbids the formation of gas.

WASHINGTON COUNTY.

The second gas well of the Cannonsburg Iron Works was completed April 2d. A very strong flow of gas was found at a depth of 2,000 feet, and by some it is said to nearly equal in volume the old McGugan gasser.

Damage suits, amounting in all to $39,000, have been instituted against the People's Light & Heat Company, of Washington, Pa., to recover for damage done by the explosion of natural gas at this place several weeks ago. Wm. Rabe has brought suit for $10,000, for injuries received, and $25,000 for the death of his wife, while Jacob Beck lays his damages at $4,000 for loss of property.

PITTSBURG.

The government authorities are investigating the dangers arising from the natural gas mains, in Garrison alley, close to the Government building at Pittsburg. Superintendent M. L. Malone

has prepared a report on the subject. It is the opinion of United States District Attorney Stone that the government has a right to call for the removal of natural gas pipes deemed to be dangerous to property. The Fuel Gas Company has already put down low pressure mains along Garrison alley to Penn avenue. Superintendent Malone, in his report to Supervising Architect Bell, says that he found a trench along Garrison alley the entire length of the government lot and building in which the gas company intended to lay six and eight-inch pipes. There was also an iron tank, 326 feet in capacity, on the opposite side of the alley, fifty-five feet in the rear of the building. On the pipe close to the tank is to be a valve proposed to regulate the pressure of gas. The report then states:

"After a careful examination I am of the opinion that the risk to the appraisers' store is largely increased by the laying of these pipes along Garrison alley in close proximity to the side of the building; the probable escape of gas from small imperfections that may exist in the joints of the pipes before they were laid, or other defects that may occur from their being unskillfully laid in the trenches, or other impairing influences that they may be subject to under the natural law of expansion and contraction, by change of temperature, all of which experience has taught us to be very difficult, if not impossible to prevent when the gas is conveyed under the present high pressure." It is further claimed "that the gas will penetrate into the cellars, particularly in the winter when the earth is frozen." From the tenor of Mr. Malone's report it is probable that legal action will be taken in regard to the matter.

THE PIPE LINE STOCKS.

During the past seven months the reports of the pipe lines have told but one story, in regard to supply and demand, and that story has been a very favorable one to the producer. The amount of oil shipped from the region has constantly exceeded the amount taken from the wells. The runs have dropped down to a point lower by many thousand barrels than has been recorded at any time since 1879.

The demand, as shown by the tables of shipments and exports, is as great as ever, and the consumption of American petroleum in foreign countries exhibits no perceptible signs of diminution. The stocks in the custody of the pipe lines reached their maximum on the 31st of August, 1884, when the figures showed total gross stocks of 41,975,126 barrels, while the net stocks were 39,086,004 barrels. The drain upon the stocks has been steady from that date, as will be seen by the following table:

Decrease September '84	248,901
do October	376,306
do November	179,780
do December	984,300
do January, '85	266,553
do February	616,977
do March	345,282
Total	3,018,099
Net Stocks Aug. 31, '84	39,086,004,01
do March 31, '85	36,067,905.24
Decrease in seven months	3,018,098.77

The gross stocks show even a greater decline, but the difference is made up by a corresponding increase in the sediment and surplus account.

Gross Stocks August 31, '84	41,975,126
do March 31, '85	38,773,262
Decrease	3,201,864

During the seven months from September to March, inclusive, the net stocks in the custody of the different pipe lines have been diminished 3,018,099 barrels.

SUMMARY of the statement of the Tidewater Pipe Co., Limited, for March, 1885.

		Barrels.
Quantity of crude petroleum in custody at beginning of March		1,495,852.79
Quantity of crude petroleum at close of March	1,579,774.99	
Less sediment and surplus	87,296.31	
		1,492,478.68
Receipts during March		184,559.42
Deliveries during March—to refiners	184,913.51	
" " " —to other parties		
		184,913.51
Outstanding certificates, accepted orders, etc		822,000.00
Credit balances		670,478.68
Total liabilities March 31, 1885		1,492,478.68

FEBRUARY SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of February		1,504,885.58
Quantity of crude petroleum at close of Feb	1,575,917.15	
Less sediment and surplus	80,064.36	
		1,495,852.79
Receipts during February		175,974.46
Deliveries during February—to refiners	173,750.13	
" " " to other parties	8,056,09	
		181,806.22
Outstanding certificates, accepted orders, etc		845,000.00
Credit balances		650,882.79
Total liabilities February 28, 1885		1,495,852.79

SUMMARY of the statements of the National Transit Co., for March and February, 1885.

	March.	February.
Receipts from all sources	1,476,301.20	1,369,368.80
Deliveries	1,694,945.24	1,710,322.42
Gross stocks end of month	37,086,384.10	37,227,218.75
Sediment and surplus	2,618,060.46	2,514,508.09
Total liabilities end of month	34,468,323.64	34,712,710.66
Outstanding acceptances	27,417,675.12	27,694,042.14
Credit balances	7,050,648.52	7,018,668.52

The above receipts from all sources for March were made up as follows:

Transferred from United Pipe Line as reported to N. F. Hilton, representing Conference of Oil Exchanges	4,757.26	
Less sediment and surplus		
Net amount from United Pipe Lines		4,757.26
Runs from wells		1,471,543.94
Received in iron tanks		
Total		1,476,301.20

THE youngest member of the New York Cotton Exchange is a youth of fifteen, and the oldest a veteran of eighty-two years.

PETROLEUM EXPORTS.

THE exports of refined, crude and naphtha, from all United States ports from Jan. 1 to April 4, for the years 1884, 1885, were as follows:

	1885. Gallons.	1884. Gallons.
From Boston	1,554,489	1,606,859
Philadelphia	20,441,470	12,320,570
Baltimore	2,634,814	1,202,673
Richmond	. . . . .	. . . . .
Total	24,630,773	15,130,282
From New York	88,917,684	87,473,632
Total exports from United States	113,548,457	102,603,914

The appended table from the *Shipping List* gives the total exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1st to April 8th, for the years 1884 and 1885:

REFINED.

	1885.	Total.	1884.
GREAT BRITAIN.—London	5,334,428		3,637,827
Liverpool	2,396,542		393,623
Bristol	1,154,899		390,780
Ireland	783,787		752,849
Other ports	2,153,539		1,199,543
		11,823,195	. . . .
GERMANY—Bremen	3,742,714		9,551,873
Hamburg	6,906,203		11,343,870
Konigsburg and Stettin	569,024		. . . .
Dantzic	133,418		. . . .
Other Ports	. . . .		. . . .
		11,351,359	. . . .
FRANCE—Marseilles	. . . .		. . . .
Havre	. . . .		. .
			. . . .
Norway and Sweden	896,496	896,496	301,523
Russia	. .		. . . .
			. . . .
DENMARK—Tuborg	305,250		. . . .
Aarhuns	283,214		. . . .
Aalborg	. . . .		. . . .
Copenhagen	630,337		1,228,181
Elsinore	. . . .		. . . .
		1,219,801	. . . .
Belgium	6,308,475	6,308,475	9,389,762
			. . . .
HOLLAND—Amsterdam	3,860,096		. . . .
Rotterdam	909,299		. . . .
		4,769,395	7,584,525
Spain	. . . .		70,000
Portugal	280,552	280,552	178,019
Gibraltar and Malta	478,000	478,000	1,813,510
Italy	590,447	590,447	521,779
Austria.--Trieste, etc	483,945	483,945	1,150,358
Greece	. . . .		. . . .
Turkey in Europe	968,234	968,234	150,260
Turkey in Asia	571,100	571,100	483,700
Arabia	50,000	50,000	. . . .
			. . . .
INDIA AND SIAM—Bombay	5,703,100		. . . .
Calcutta	4,289,820		. .
Point de Galle	500,260		. . . .
Bangkok	325,000		. . . .
Kurachee	579,370		. . . .
		11,397,550	6,317,480
CHINA AND JAPAN—Shanghae	4,269,500		. . . .
Hong Kong	2,531,610		. . . .
Yokohama	3,971,890		. . . .
Saigon	240,520		. . . .
Tientsin	150,000		. . . .
		11,163,520	5,019,190
EAST INDIES—Anjier	2,918,230		. . . .
Batavia	918,900		. . . .
Iloilo	. . .		. . . .
Manila	. . . .		. . . .
Padang	. . . .		. . . .
Penang	215,250		. . . .
Rangoon	. . . .		. . . .
Singapore	559,500		. . . .
		4,674,880	3,173,150
AFRICA.—Alexandria, etc. E	701,010		503,270
Canary Islands	25,000		. . . .
Other Ports	585,400		463,222
		1,311,410	. . . .
Australia	1,044,810	1,044,810	636,393
New Zealand	431,364	431,364	220,720
Sandwich Islands	. . . .		125,100
			. . . .
SOUTH AMERICA.—Brazil	2,314,893		853,626
Argentine Confederation and Uruguay	422,880		878,970
Chili and Peru	268,639		168,960
U. S. Columbia	89,568		139,015
Venezuela	180,517		145,346
Other Ports	14,110		22,300
		3,290,607	. . . .
Central America	46,504	46,504	38,695
Mexico	447,652	447,652	408,825
British North American Colonies	276,062	276,062	258,134
Cuba	129,481	129,481	172,637
British West Indies and Br. Guiana	597,617	597,617	427,711
Other West Indies	421,821	421,821	359,068
Total . . . . . Galls.	75,024,277	75,024,277	70,473,691

CRUDE.

	1885.	Total.	1884.
FRANCE.—Havre	2,062,411		3,003,014
Marseilles	799,699		1,463,532
Bordeaux	571,024		607,441
Dunkirk	1,729,375		1,533,314
Cette	687,857		. . . .
Rouen	253,524		. . . .
Les Sables d'Ollone	119,961		. . . .
St. Loubes	. . .		. . . .
		6,223,851	2,485,811
Antwerp	. . . .		. . . .
Bremen	852,354	852,354	. . . .
Austria—Fiume	423,815	423,815	3,185,915
Norway and Sweden	. . . .		. . . .
			. . . .
SPAIN—Alicante	1,170,114		. . . .
Pasages	180,755		. . . .
Bilboa	679,010		. . . .
Barcelona	330,837		. . . .
Carthagena	42,786		. .
Corunna	452,194		. . . .
Malaga	162,000		. . . .
Santander	445,890		. . . .
Seville	460,750		. . . .
Tarragona	83,910		. . . .
Valencia	166,783		. . . .
		4,175,029	2,323,083
Cuba	730,620	730,620	886,393
Total . . . . . Galls.	12,405,669	12,405,669	15,488,503

NAPHTHA.

	1885.	Total.	1884.
Great Britain	606,771	. . . .	878,042
France	303,712	. . . .	385,606
Germany	201,145	. . . .	211,090
Other Europe	353,035	. . . .	25,095
Various Ports	23,075	. . . .	11,605
Total . . . . . Galls.	1,487,738	. . . .	1,511,438

RESIDUUM.

	1885.	Total.	1884.
To all Ports	1,246,300	1,246,300	762,325

	Gallons.
Total Refined since January 1, actual shipments	76,119,848
do do do do crude equivalent	101,493,131
do Crude do do actual shipments	12,660,106
Grand Total Crude and Crude equivalent . . . . galls.	114,153,237
Same time, 1884	112,035,752

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, April 7, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude.	Naph.	Res.	Total.
New York	20	18	10	0	0	48
Philadelphia	16	16	10	2	1	45
Baltimore	4	0	0	0	1	5
Boston	1	0	0	0	0	1
Total.	41	34	20	2	2	99
Total March 10	43	39	10	2	2	96
Difference	2	5	10	0	0	3

VASELINE IN PASTRY.—It was stated at a recent meeting of the Hygienic Council, of Paris, that it had been found that vaseline was being used in pastry in place of butter or fat. Pastry thus made will keep much longer than if butter be used, but vaseline has no nutritive qualities, and its effect on the digestive apparatus has not been ascertained. The Council, therefore, advised that its use for pastry making shall not be permitted in France.

LAMPS were used before candles. The oil was conducted to the flame by means of a wick before man learned to use the suet, which hardened upon a wick and made a rigid rod of grease. "The invention of artificial light has extended the available term of human life, by giving the night to man's use; it has, by the social intercourse it encourages, polished his manners and refined his tastes, perhaps, as much as anything else has aided his intellectual progress."

CRUDE MARKET FOR MARCH.

The market maintained a higher level of prices during March than in any month since last September. The prospects of a speedy limitation to the borders of the Thorn Creek field, accompanied by a large percentage of decline in the production of the northern region and an average of the daily shipments much above the average of the daily runs, combined to bring about a confidence in higher prices that had been absent for many months. The efforts of the mystery manipulators to break the advance proved fruitless in every instance. The Murphy combination received a severe set-back at the Mangel and Markham wells, in the Thorn Creek field, and Willard White, of Boston, a comparatively new name in the business, made a ghastly failure of his attempt to harvest market benefits from a ten-barrel gusher near Kinzua Village.

The month opened at 82¾ in all the exchanges, and closed at 81¼. The highest price, 84, was reached on the 24th, and the lowest, 76, on the 7th of the month. The entire range of prices covered 8 cents, as compared with 16⅜ cents in February and 7⅞ cents in January. The average price for the month on the floor of the Bradford Exchange was 80⅜ cents in March, against 73⅛ cents in February and 70¾ cents in January. The average price for March one year ago was $1.00⅛.

THE CLEARANCES.

	January. Barrels.	February. Barrels.
Bradford Oil Exchange	123,976,000	80,846,000
Oil City	152,806,000	96,984,000
New York, N. Y. Pet	141,076,000	106,896,000
New York, National	208,510,000	157,500,000
Pittsburgh Petroleum (new)	81,268,000	57,241,000
Total	707,636,000	499,467,000

THE REFINED MARKET.

The refined market was dull and sluggish throughout the month, but prices ruled steady without material changes. The foreign demand, which seemed so promising at the close of February, proved somewhat premature, and Europe is again a slow buyer. London, under date of March 21, had less than one month's supply of American refined in stock and had to depend upon fresh arrivals to keep pace with the consumption.

The domestic trade has been moderate. Quotations ruled steady at 10 to 10½c. for 150° water white; 8 to 8¼ for 100° test, 8½ to 8¾ for 120° and 9 to 9½ for 130° Standard White. Naphtha has been reduced to 6½ to 7¼ cents for prime. Refined in cases remains firm at 9¼ cents for the plain and 9½ cents for the fancy brands.

Mr. Geo. H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East, up to the first of April, for the years 1884 and 1885:

	1885. Cases.	1884. Cases.
China.—Shanghai, previously reported	337,550	108,100
" March	89,400	
Hong Kong, previously rep'd	151,889	106,000
" March	101,272	
Japan.—Yokohoma, previously rep'd	302,683	179,303
" March	94,506	
Hiogo	58,700	30,000
Nagasaki	....	39,516
India.—Calcutta, previously reported	323,382	539,612
" March	154,200	
Bombay, previously reported	299,159	47,300
" March	272,151	
Kurrachee	57,937	....
Point de Galle	31,598	....
Java.—Batavia,	98,190	66,200
Anjier	259,223	152,331
Singapore.	55,950	....
Penang and Singapore	....	28,900
Penang, February	21,525	29,750
Manila.—Padang, etc	71,552	64,476
Total	2,780,867	1,391,488
Total March 1	1,780,631	577,719
March Clearances	1,000,236	813,769
Increase, as compared with same time last year (cases)	1,389,379	

REFINED QUOTATIONS FOR MARCH.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwerp.
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	..	..	..	..	..	..
2	8	7¾	7⅞	7½	7 25	18⅛
3	8	7¾	7⅞	7⅞	7 25	18
4	7⅞	7⅝	7¾	7¾	7 10	18
5	7⅞	7⅝	7¾	7¾	7 10	17¾
6	7⅞	7⅝	7¾	7⅝	7 10	17¾
7	7⅞	7⅝	7¾	7¾	7 10	17¾
8	..	..	..	..	..	..
9	7⅞	7⅝	7¾	7⅝	7 10	17¾
10	7⅞	7⅝	7¾	7⅝	7 10	17¾
11	7⅞	7⅝	7¾	7⅝	7 10	17¾
12	7⅞	7⅝	7¾	7¾	7 20	18
13	7⅞	7⅝	7¾	7¾	7 15	18
14	7⅞	7⅝	7¾	7⅝	7 15	18
15	..	..	..	..	..	..
16	7⅞	7⅝	7¾	7⅝	7 10	18
17	7⅞	7⅝	7¾	7⅝	7 10	17⅞
18	8	7¾	7⅞	7⅝	7 10	17⅞
19	8	7¾	7⅞	7⅝	7 15	17⅞
20	8	7¾	7⅞	7¾	7 20	17⅞
21	8	7¾	7⅞	7¾	7 15	17⅞
22	..	..	..	..	..	..
23	8	7¾	7⅞	7¾	7 15	17⅞
24	8	7¾	7⅞	7¾	7 15	17⅞
25	8	7¾	7⅞	7¾	7 15	17⅞
26	8	7¾	7⅞	8	7 20	18
27	8	7¾	7⅞	8	7 20	18
28	8	7¾	7⅞	8	7 20	17⅞
29	..	..	..	..	..	..
30	8	7¾	7⅞	8	7 20	17⅞
31	8	7¾	7⅞	7⅞	7 05	17⅞

THE AVERAGE PRICE OF CRUDE.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

	1879	1880	1881	1882	1883	1884	1885
January	..	110 1-5	95	83	92¾	111⅓	70¾
February	..	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅛	80⅜
April	78⅜	76⅝	84⅛	78¼	92⅝	94	
May	73½	80¼	81½	70	99⅜	85½	
June	68⅜	100¼	81	54½	117¼	68¾	
July	69⅞	101¼	76½	57⅝	108	63½	
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92½	71⅓	112½	78	
October	88⅛	96¾	92¾	93⅝	111⅛	71	
November	105⅜	91¼	82½	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114½	74⅜	

WHITE SAND POOLS.

Cherry Grove, Cooper and Balltown Pipe Line Runs to March 31st, 1885.

1882.	Ch'y Gr've.	Cooper.	Balltown.	Total.	Daily Av'ge
	Bbls.	Bbls.	Bbls.	Bbls.	Bbls.
May	6,765	....	....	6,765	218
June	91,102	....	....	91,102	3,037
July	268,294	....	....	268,294	8,655
August	753,752	....	....	753,752	24,315
September	690,072	....	....	690,072	23,002
October	290,246	3,712	....	293,958	9,483
November	146,587	8,810	....	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	163,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114,233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87,193	261,784	8,445
April	31,191	126,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	89,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67,883	151,913	4,900
September	19,590	64,648	63,453	147.691	4,923
October	13,824	56,151	55,211	125,186	4,038
November	12,689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25,469	62,262	2,224
March	11,558	26,866	29,589	68,013	2,194
Total Mar.31,'85.	3,397,721	2,222,414	1,666,631	7,286,766	6,836

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to Mar. 31st, 1885. Cherry Grove has produced 3,397,721 barrels, Cooper 2,222,414 and Balltown 1,666,631 barrels. The daily average runs from the three fields during March were 2,194 barrels, a decrease of 30 barrels from the February figures. The daily average runs from the Cooper and Henry's Mills sections for March were 867 barrels, for February, 987, and for January 1,214 barrels.

The Balltown field has a daily average of 954 for March, against 910 in February. Cherry Grove averaged 373 barrels during March, 327 in February and 360 in January.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to March 31, 1885, inclusive, has been 7,286,766 barrels, a total daily average of 6,836 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are enumerated in the list. The pipe line runs from these sections since April 1st, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average.
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1.015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February, 1885	205,774	7,349	18,570	663
March	224,398	7,239	18,770	605

RUNS, SHIPMENTS AND STOCKS.

RUNS OR RECEIPTS.

Pipe Line.	March, 1885.	February, 1885.
National Transit Co	1,471,543.94	1,354,345.48
Tidewater	184,559.42	175,974.46
Octave Oil Co	2,447.21	2,024.70
Charley Run	....	.....
Shaffer Run	....	.....
Franklin (limited)	6,205.07	5,195.73
Cranberry Pipe Line	2,282.04	1,787.30
Total	1,667,037.68	1,539,327.67
Daily average	54,097.99	54,975.97

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

Pipe Line.	March, 1885.	February, 1885.
National Transit Co	1,694,945.24	1,710,322.42
Tidewater	184,913.51	173,750.13
Octave Oil Co	2,520.59	2,126.50
Charley Run	.....	.....
Shaffer Run	.....	.....
Franklin (limited)	1,644.66	6,484.51
Cranberry Pipe Line	2,664.38	1,991.73
Total	1,886,688.38	1,894,675.29
Daily average shipments	60,860.91	67,666.97

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532.22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020.89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23
Daily excess of runs over shipments, December	6,395.92
Daily excess of shipments over runs, November	3,548.49
Daily excess of shipments over runs, October	3,972.41
Daily excess of shipments over runs, September	11,372.77
Daily excess of runs over shipments August	1,571.67
Daily excess of runs over shipments, July	12,905.31
Daily excess of runs over shipments, June	12,183.86

NET STOCKS.

Pipe Line.	March 31, 1885.	February 28, 1885.
National Transit Co	34,468,323.64	34,712,710.66
Tidewater	1,492,478.68	1,495,852.79
Octave Oil Co	4,640.02	5,200.59
Charley Run	3,717.00	3,717.00
Shaffer Run	30,636.32	30,636.32
Franklin (limited)	23,866.42	24,249.73
Cranberry Pipe Line	23,867.39	19,306.01
United Pipe Line	20,375.77	25,133.03
Total	36,067,905.24	36,316,806.13

Stocks decreased March	248,900.89
Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780.27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552.87
Stocks decreased Oclober, 1884	616,976.88
Stocks decreased September, 1884	345,281.52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.10
Stocks increased June, 1884	190,320.23
Stocks increased May, 1884	322,981.75
Stocks increased April, 1884	1,945,919.83
Stocks increased March, 1884	164,711.33
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56
Stocks increased, December, 1883	220,328.28
Stocks Decreased November	121,800.43
Stocks Decreased October	135,681.61
Stocks Decreased September	350,167.79
Stocks Decreased August	269,053.22
Stocks Increased July	386,004.51

	RECEIPTS.	DELIVERIES.
Daily Average March	54,098	60,861
Daily Average February, 1885	54,976	67,667
Daily Average January, 1885	53,290	58,183
Daily Average December	61,743	76,808
Daily Average November 1834	61,751	69,264
Daily Average October, 1884	63,064	80,966
Daily Average September, 1884	65,952	76,391
Daily Average August, 1884	66,996	64,402
Daily Average July, 1884	66,702	56,170
Daily Average June, 1884	67,350	60,907
Daily Average May, 1884	66,688	56,448
Daily Average April, 1884	65,794	54,773
Daily Average March, 1884	64,590	60,445
Daily Average February, 1884	64,573	59,420
Daily Average January, 1884	58,178	54,404
Daily Average December, 1883	62,830	56,434
Daily Average November	65,281	68,829
Daily Average October	67,649	71,621
Daily Average September	66,210	77,582
Daily Average August	68,877	67,306
Daily Average July	65,628	52,722
Daily Average June	70,443	58,259
Daily Average May	69,445	61,411
Daily Average April	69,207	63,612
Daily Average March	64,404	52,732
Daily Average February	65,208	44,375
Daily Average January	65,125	43 813

THE ROBERTSON BILL.

The full text of the bill introduced into the Pennsylvania Legislature by Mr. Andrew Robertson, of the Fourth District, Allegheny county, to cripple speculation by making it illegal to buy or sell commodities on a margin, is as follows:

SECTION 1. Be it enacted, etc., that if any person or persons shall engage in the buying or selling of railroad, mining or other stocks, oil, wheat, corn, rye, oats, pork or other articles of produce, or any other commodity or commodities of commerce, on a margin or margins, or shall suffer or allow other persons to collect and assemble in his house, office, place of business, or place of resort under his or their control, for the purpose of buying or selling railroad, mining or other stocks, oil, wheat, rye, corn, oats, pork or other articles of produce, or any other commodity or commodities of commerce, on a margin or margins; or if any person, being the owner, tenant, lessee or occupant of any house, room or place whatsoever, shall lease, hire or rent the same, or any part thereof, to be used and occupied or employed for the purpose of buying or selling railroad, mining or other stocks, oil, wheat, corn, rye, oats, pork or other articles of produce, or any other commodity or commodities of commerce, on a margin or margins, the person so offending in any of the particulars hereinbefore set forth in either of the enumerated cases shall be guilty of a misdemeanor, and on conviction thereof be sentenced to pay a fine not exceeding $500 and to undergo imprisonment for a term not exceeding one year.

SEC. 2. That any and all contracts of transactions in stocks of any kind or character whatsoever, in oil, in wheat, rye, corn, oats, pork or other articles of produce, or any other commodity or commodities of commerce, by way of margins, or for the settlement of differences and payment of the gains or loss without any delivery of the stocks or other articles hereinbefore named, are hereby declared to be gambling contracts and entirely void.

SEC. 3. That this act shall take effect immediately, and that all acts or parts of acts inconsistent herewith are hereby repealed.

BILL TO REGULATE PIPE LINES.

Senator Boggs, of Cambria county, introduced in the State Senate, March 31st, the following bill to regulate the piping of oil and to prevent discrimination:

SECTION 1. From and after the passage of this act it shall not be lawful for any pipe line company, or any other company engaged in the storage or transportation of petroleum in this Commonwealth, to charge, demand or receive for the storage of petroleum more than ½ cent per barrel of 48 gallons for any period not exceeding 15 days, or more than ¾ cents per barrel for storage of the same for any calendar month, when oil is less than $1 per barrel; 1 cent per barrel when the price is above $1, and 1¼ cents when the oil is above $1.50 per barrel.

SEC. 2. No pipe line or storage company shall take down, remove or cut off from its general system of tankage, any tank or other receptacle used for the storage of petroleum with the intent to deprive any producer or producers of petroleum of reasonable facilities for the storage thereof, or sever its pipe connections with the tank at the well of any producer of petroleum with the intent to deprive such producer of reasonable facilities for the removal and storage of his product, or place any unjust or unreasonable conditions on the receipt of storage or transportation by pipe of any petroleum, or make any undue or unreasonable charge or assessment for the shrinkage, evaporation or waste of any petroleum in its custody, or make on account of insurance any general average charge or assessment for any petroleum not actually lost or destroyed.

The penalty for violation of any of the provisions of this act is the payment by the pipe line or storage company of three times the actual damage sustained, and an additional $1,000. Any agent or employe violating this law shall be deemed guilty of a misdemeanor, subject to a fine of not less than $1,000 nor more than $5,000 and imprisonment of not less than six months nor more than two years. When a suit for violation is carried to the Supreme Court and the company is adjudged guilty it forfeits its franchises and charter.

THE PETROLEUM AGE.

DEVOTED TO THE

Interests of the Petroleum Trade.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR.

BRADFORD, PA.

W. C. ARMOR, MANAGER.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid) . . . . . $3.00 per Year in Advance.
Subscription Price (Postpaid) . . . . . $1.75 per 6 months in Advance.
Foreign Subscription . . . . . $3.50 per Year in Advance.
Single Numbers . . . . . 30 cents.
The Bradford office of the AGE is in the Producers Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

A fair amount of new work is already mapped out for the spring and summer campaign in the Allegany field, but, owing to rough roads and inclement weather, very little of it has been actually begun. March shows an increase of seven new rigs and one drilling well, while the old rigs are decreased by three. The total of work under way is represented by 80, while the February total was 75. Seven wells were completed in the Allegany field and the outlying regions, two of which were dry. The five productive wells are estimated at 25 barrels for the last day of the month. The pipe line runs from the field are now nearly on a par with those of the Thorn Creek section, having dropped down to an average of 7,342 barrels a day for the month of March. This is a decrease of 354 barrels from the February average. The new wells of the past month have been too few in number and too small in calibre to materially aid in keeping up the production of this rapidly waning field.

BRADFORD FIELD.

Bradford begins to show signs of renewed activity and reviving interest, having nearly doubled the wells completed in March and increased the totals of new work under way. The Cole Creek section of the northern region finished more wells than all other parts of the field combined. The Bingham lands of this prolific district proved disappointing to the producing firms, who had been pushing the drill with the expectation of finding an uninterrupted series of gushers of the average McKeown grade. The broad acres of woodland are fast yielding up their supplies of crude, and the March wells show unmistakable signs that the borders of the new area are being rapidly neared. There were 23 productive wells added to the list in March, while the last day of the month witnessed 17 new rigs, 58 old rigs and 25 drilling wells within the defined lines of the great northern region. The pipe line runs show another drop in March, averaging 26,833 barrels a day, or 647 barrels less than the average for February.

WARREN AND FOREST.

Warren county furnished a momentary sensation during March, which came in a mysterious shape, and passed away like a summer shower. The White & Parker well, on the Swift farm, north of Kinzua Village, discovered a fair showing of oil, and made the principal owner, Mr. Willard White, a large land-holder in Warren county, ambitious to reap substantial benefits on the bear side of the market as well as legitimate profits from his lands. It was shut down in regulation style and outposts set up to check the curiosity of prying eyes, excite the greed of the land sharks and the rapacity of the farmers. A two-inch line was laid to the well, a large pump placed in position and the derrick connected by telegraph and telephone wires, with the outer world. March 27th was the date set when the new Kinzua gusher was to be let loose upon an unsuspecting public and an 82-cent market. But strange to say, the great guns of the oil exchanges paid very little attention to Mr. Willard White and his well. On the morning of the eventful day a score or more of lease hunters and petroleum seekers arrived and the old village began to stir with life and bustle. All day long the derrick on the bank of the river was gazed at from afar off, while Mr. White and his satellites rushed to and fro, fully alive to the importance of their position. Along in the afternoon, the walking beam began to wag and the drill to reach deeper down into the earth. The well had been spraying oil and it continued to spray, and that was all there was of it. The market obstinately refused to go down, and Mr. White returned to Boston, a sadder, wiser, and probably poorer man.

The venture of White & Co. is rated as a ten-barrel producer; it has already stimulated activity in that section of the field, and the present month will witness the completion of several other wells.

The Goff well, southwest of Balltown, found six feet of sand and is a dry hole. It was drilled ninety feet below the Balltown oil formation without result.

The McCalmont Oil Co. is preparing to drill a number of wells in the Cooper district, while several large producing firms will rush the drill in the vicinity of Tiona. Fertig & Henne, E.

O. Emerson, Wesley Chambers, and H. B. Beatty & Bro. have secured a large body of light-waisted territory in this section of Warren county and will develop it during the coming months.

The Porcupine Oil Co. will keep one set of tools swinging on their property in the Balltown field. The failure of the Goff well to the southwest will enable May, Kelley & Grandin to speedily terminate the extension of this pool in that direction on their own lands.

Warren and Forest together completed 32 productive wells and 3 dry holes in March. The new production is estimated at 178 barrels. On the last of the month there were 41 new rigs, 35 old rigs and 25 drilling wells in the middle field.

LOWER COUNTRY.

Occasionally a well is sunk in the partially abandoned territory along Oil Creek, unimportant in its results and of slight value in solving the problem of production. On the first of the month William Baker was drilling on the Blood farm and Playford & Co. were shut down near Rouseville.

In the Cranberry district operations are quiet, but a few oil men keep a small amount of new work under way. The Galbreath well at Mount Hope, on the east side of the Allegheny river, below Franklin, is still producing 100 barrels per day and the drill is vibrating at several wells in its immediate vicinity. In the old Bullion field, famous in crude annals for its phenomenal gushers, a dry hole was found by Dennison & Co. It is located about one mile east of the Gailey No. 1 and about 500 feet from the eastern end of the belt. A hard sand, having a thickness of 19 feet, was struck at a depth of 1098 feet. Rumsey & Co. had a rig up on the Cross farm, and Hoffman & Co. were building one on the Hoffman farm on the first of the month.

Some of the old Bullion wells are holding up remarkably, but there is no danger of the trade meeting with a surprise in the way of new developments in this section.

The Cogley Run district, north of Edenburg, in Clarion county, has attracted the attention of a number of operators who formerly drilled for oil in the Clarion field. Since the initial well was drilled at the close of the year, four other wells have been completed in its vicinity, and all but one are profitable producers. The Barker well, a short distance west of the Cogley Run well, is reported dry at this writing, April 13, although it is claimed by parties operating in that section that the well is not deep enough for the award of such a dusty verdict. The Patterson & Leedom well was torpedoed on the 8th inst., and was pumping 32 barrels per day on the 10th. It extends the pool or belt about a quarter of a mile northward. The pioneer producer has a yield at the present time of 16 barrels per day. There are five wells drilling in the field at present and a number of rigs up and building. In Clarion county on the last of March there were 11 new rigs, 2 old ones and 8 wells drilling, a total of 21, against 16 on the last of the previous month.

Some prime territory has been disclosed in the St. Joe district during the past twelve months. Phillips completed a well on the Neff farm and one on the Crouse, about the 10th inst., each of which will produce 100 barrels daily after being given a 6 or 8-quart shot. The Crouse well had fifty feet of sand and the total depth of the well was 1685 feet.

Hooks Bros.' No. 3, west of Martinsburg, was added to the finished list in March and is rated at 35 barrels.

THORN CREEK.

At this writing, April 13, the production of the Thorn Creek district is nearly twice as large as the daily average yield was during March, in consequence of the shooting of a number of large wells. The March daily average pipe line runs were 7,239 barrels for the Thorn Creek and Baldridge sections. The April yield will range considerably above that of March, on account of a greater number of producing wells being added to the list during the month.

The Associated Producers' No. 15 on the Bredin half acre, the Phillips No. 1 and Ackerly & Co.'s Nos. 1 and 2, on the Girard farm, coming in large, give the oil bearing rock an easterly trend and now indicate that the prolific streak passes between the Markham well on the Lavery farm and the Murphy No. 1 on the Mangell. Uncertainty hangs over the territory north of the Clark, Reep & Sutton No. 1 on the McLaughlin farm, which will be removed when a number of wells now going down on that farm are finished. The Markham well on the Lavery farm was mystified in the most approved manner by the gentlemen who have gained a reputation for that business throughout the country. The well was overmanaged and over-shot and failed to respond when the explosive compound was used. Sucker rods were called into play March 23, and the well is now pumping over 200 barrels per day.

Salt water is not the only element which at present retards the work of operating in the Thorn Creek district. The roads between Butler and the front, beyond McBride City, are covered with mud adhesive and thick. Transportation is so difficult that the supply of coal for fuel can not be delivered fast enough and a number of wells have been shut down. During the winter soft coal was delivered at the wells for ten cents per bushel while under the present embargo of mud it costs thirty cents. Most of the wells east of McBride City are in open fields from which the timber was long since removed.

Heavy shots are now in order and torpedoes of 100 and 120 quarts are being used.

The gauge of the Thorn Creek district for the 24 hours ending on the morning of April 13th, was 11,887 barrels. The hourly gauges of a number of the important wells were as follows: Producers' 15, 44 barrels; Fisher 14, 31 barrels; Fisher 16, 42 barrels; Ackerly No. 1, 26 barrels; Ackerly No. 2, 86 barrels; Murphy No. 3, 30 barrels, and Phillips No. 1, on the Girard, 14 barrels.

The 20 wells completed in the Thorn Creek district during March had a new production on the last day of the month of 2,641 barrels. Of this number five came in dry. The 12 wells finished in February had a yield on the last day of that month of 2,213 barrels. On the last day of March there were 26 rigs up and building and 57 wells drilling in the field, against 15 new rigs, two old ones and 50 drilling wells on tha last day of February.

CHRONICLES OF THORN CREEK FOR MARCH.

One month ago the Thorn Creek field seemed to meet with a very sudden halt in its march to the south and east. The insignificant results of the Murphy and Clark, Reep & Sutton experiments, with several dusters along the western border and later on the failure of the Markham to come up to the anticipations of her owners and backers, united to bring about the belief that the field had been at last thoroughly defined. But the developments of the past few days have aroused new interest in the field, and now the line of large wells is advancing steadily toward the east. The principal events of the past thirty days are summarized in the following:

March 16. Mushrush No. 1 shot for third time and production increased to 50 barrels an hour.

March 17. Producers' No. 5 stops flowing. Boyd well down to below 200 barrels a day. One hundred quart shot lowered in J. H. Markham's well on the Lavery farm, but not exploded.

March 18. Markham's well shot at 12:45 p. m. No response for twenty minutes. Then began to throw salt water to the top of the derrick and to gas a great deal, but showed no signs of oil. At 6 p. m. had tanked 120 barrels of oil and water. Fisher's 8, 9 and 10, and Producers' No. 5 have ceased producing. McLaughlin farm well doing 25, and Murphy No. 1 8 barrels a day.

March 19. Markham well cleaning out; had made 170 barrels of oil and water at 9 a. m. Christie Bros.' well on the Daniel Wise farm through the sand and dry. Mushrush No. 6 in the sand and making small flows. Fisher Nos. 6, 7, 13 and 15, and Producers Nos. 3, 4, 8 and 10 are in the sand.

March 20. Mushrush 6 four bits in sand and flowing four barrels an hour. Producers 10 twenty feet in sand and making small flows. Fisher 13 fifteen feet in sand and flowing by heads.

March 21. Mushrush 6 and Fisher 13 drilling in sand and flowing about 13 barrels an hour. Producers Nos. 3 and 8 both fifteen feet in sand and half full of water. Producers No. 10 twenty feet in sand with hole full of oil.

March 23. Markham tubed and begins pumping. Mushrush 6 made 47 barrels in 24 hours. Fisher 13 made 88 barrels last 24 hours and stopped. Fisher 17 stopped flowing at 10 a. m. Producers No. 10 flowing steadily at 25 barrels an hour from the lower pay streak; No. 3 nearly through the sand with hole full of salt water; No. 5 doing 100 barrels a day. Armstrong No. 4, on the Marshall, through the sand and will be pumped without shooting. Mushrush 3 shot and making 16 barrels an hour.

March 24. Ten wells in the sand. Fisher 13 nearly through and showing poorly. Mushrush 6 twenty feet in sand and making 60 barrels a day. Producers 3 thirty-five feet in sand and full of salt water; shows no oil. Producers No. 9 declines to 7 barrels an hour. Murphy pumping 20 barrels a day.

March 25. Markham well pumping about 100 barrels fluid a day, about one half of which is oil. Mushrush No. 6 drilled through sand.

March 26. I. E. Ackerly well, on Girard, in the sand and mystified. Producers No. 10 making 12 barrels an hour. Markham well begins to show more oil, and is estimated at 100 barrels a day.

March 27. Markham pumping 100 a day. Fisher No. 10 starts up at ten barrels an hour. Producers Nos. 3 and 4 through the sand.

March 28. Ackerly well 35 feet in sand, 17 of which was dark and slaty, but is now drilling in good white sand. Fisher No. 8 pumping water. There are 77 producing wells in the district, which gauge 5,876 barrels. Not a single well is at this date doing 1,000 barrels a day.

March 30. Fisher 7 and 14 through the sand. No. 7 will be pumped without shooting. Fisher 8 again flowing at an 800-barrel gait. Fisher 10 doing 18 barrels an hour. Producers 10 drilling through sand and making 200 barrels a day. Murphy No. 1 shot with 10-quart torpedo and makes no response. Fisher 17 stops flowing. Producers' No. 6 33 feet in good white sand.

March 31. Producers' No. 10 shot and made 100 barrels in two and one-half hours; No. 6 through the sand; No. 8 and No. 15 are both drilling in the sand. Fisher 8 is making 40 barrels an hour.

April 1. Associated Producers Co.'s No. 15 28 feet in the sand. Fisher 14, on Marshall, shot yesterday with 60-quart torpedo, has filled up thirty feet. Fisher No. 4 made 841 barrels yesterday and to-day stopped flowing. Ackerly well, on Girard, through sand. Producers' No. 8 is also through the sand.

April 2. Ackerly well shot with 80 quarts at 5:18 p. m., starts at 128 barrels the first hour and makes 160 the second. Producers' 6, shot with 40 quarts, makes 500 barrels first 22 hours. Fisher 4 pumping water. Phillips Bros.' No. 1, on Girard farm, 25 feet in sand and flowing 25 barrels an hour.

April 3. Ackerly making 85 barrels an hour; upon being agitated increased to 105 barrels and then 100 barrels an hour. Markham well, on Girard, nine feet in sand, sold to I. E. Ackerly. Phillips 1, on Girard, drilled deeper and increased to 50 barrels an hour.

April 4. Producers' 8 shot with 40 quarts, but shows no oil. Phillips' Girard 1 making 40 barrels an hour from the lower pay streak. Eighty-one productive wells gauge 8,542 barrels; of this amount 5,592 barrels are produced from eight wells.

April 6. Sixteen wells through and in the sand. Producers' 18, 35 feet in sand and flowing 29 barrels an hour. Fisher 14 gets water pumped off and starts up again at 45 barrels an hour. Producers' No. 15 through sand. McBride & Campbell, on Rankin, finds 42 feet poor sand. Production from 82 wells 8,376 barrels.

April 7. Producers' 15 shot with 80 quarts; starts at 170 barrels an hour. Producers' 18 through sand and makes 1,737 barrels first 16 hours. Ackerly No. 2 through the sand.

April 8. At 9 a. m. Producers' 15 gauges 93 barrels, and at 2 p. m. 85 barrels an hour. Producers' 3 shot with 80 quarts, but makes no response. Keifer well, on Mates farm, ten feet in sand, with good showing. Fisher 16 started pumping yesterday; begins to show some oil. Field gauge 10,616 barrels.

April 9. Producers' 3 bailing water and begins to show oil. Fisher 16 pumping 9 barrels an hour and Fisher 17, 100 barrels a day.

April 10. Murphy No. 3, on Mangel, through sand; No. 5, 40 feet in sand. Fisher 17, on Marshall, shot and makes 70 barrels the first hour. Ackerly No. 2 (Markham, on Girard) shot with 80 quarts at 2:50 p. m., and makes 175 barrels the first hour. Fisher 16 starts flowing at 70 barrels an hour. Producers' 9 flowing by heads.

April 11. Murphy No. 3, on the Mangel, shot and starts flowing at 30 barrels an hour. Gauge this morning from 89 producing wells, 12,290 barrels.

The number of wells in the Thorn Creek field is increasing every week, while the average daily production remains nearly the same. The yield on the 15th of last November from 18 wells exceeded that of the 11th of April from 89 wells. The table following shows at a glance the steady increase in the wells and the variable nature of the production.

Date.	No. Producing Wells.	Production. Barrels.
November 9, '84	11	7,046
do 15,	18	15,445
do 20,	20	10,221
December 1,	24	7,850
do 8,	25	5,768
do 13,	30	14,264
do 15,	31	10,972
do 23,	38	7,140
do 31,	40	8,350
January 12, '85	43	5,340
do 30,	51	6,688
February 4,	52	5,941
do 14,	57	5,727
do 28,	63	7,341
March 18,	73	7,144
do 28,	77	5,875
April 4,	81	8,542
do 11,	89	12,290

The production of the Baldridge and Thorn Creek districts, as shown by the pipe line runs, has been as follows:

Month.	Runs.
April, '84	25,325
May	32,885
June	29,070
July	27,545
August	26,134
September	79,324
October	187,068
November	284,806
December	270,644
January, '85	192,180
February	205,774
March	224,398
Total	1,585,153

Following is the scouts gauges of the Thorn Creek field for March, February and January.

	March.	February.	January.
1	7,200	6,320	8,050
2	7,077	6,045	7,000
3	6,881	6,100	6,664
4	6,815	5,941	6,225
5	7,296	7,128	6,225
6	7,588	7,256	5,662
7	7,400	7,096	5,672
8	7,100	7,100	5,382
9	7,033	7,202	5,670
10	6,519	6,214	5,602
11	7,586	5,648	5,684
12	7,250	5,875	5,628
13	10,208	5,955	5,346
14	9,100	5,727	5,350
15	8,800	6,000	5,050
16	8,557	7,347	5,324

17	8,138	7,645	5,518
18	7,144	7,369	5,220
19	6,533	7,180	4,700
20	7,142	8,540	4,826
21	7,173	7,944	4,593
22	6,700	7,800	5,125
23	6,445	7,950	4,735
24	6,019	8,165	4,618
25	6,076	7,460	5,015
26	5,561	7,821	5,100
27	5,464	7,492	4,900
28	5,876	7,341	4,815
29	5,900	. . .	5,953
30	6,040	. . .	6,668
31	6,330	. . .	6,950
Total	219,051	195,661	173,270
Daily average	7,066	6,988	5,589

LIST OF THORN CREEK WELLS, APRIL 11.

Farm	Owner.	Began Producing.	Prod. Feb. 28	Prod. M'ch 28	Prod. April 11
Bartley,	Phillips Bros.,	No. 1, Aug. 29, '84	20	12	8
do	do	No. 2, Oct. 20, '84	35	0	0
do	do	No. 3, Oct. 19, '84	7	5	12
do	do	No. 4, Nov. 4, '84	0	0	2
do	do	No. 5, Nov. 20, '84	92	62	55
do	do	No. 6, Dec. 9, '84	3	3	2
do	do	No. 7, Dec. 15, '84	34	32	30
do	do	No. 8, De . 23, '84	116	117	84
do	do	No. 9, Dec. 13, '84	38	17	11
do	do	No. 10, Jan. 10, '85	53	48	25
do	do	No. 11, Jan. 31, '85	30	22	15
Dodds,	do	No. 1, Nov. 15, '84	32	20	25
do	do	No. 2, Dec, 24, '84	0	4	6
do	do	No. 3, Dec. 28, '84	0	4	3
do	do	No. 4, Jan. 12, '85	3	47	30
do	do	No. 5, Jan. 13, '85	0	5	5
do	do	No. 6, Feb. 10, 85	15	21	15
Patterson,	do	No. 1, Dec. 10, '84	12	9	9
McCandless,	do	No. 2, Feb. 6, '85	3	3	10
do	do	No. 3, Feb. 7, '85	82	67	60
do	do	No. 4, Feb. 10, '85	75	50	50
do	do	No. 1, Jan. 29, '85	336	264	28
do	do	No. 2, Feb. 21, '85	264	96	6
Mushrush,	do	No. 3, Feb. 14, '85	502	384	18
do	do	No. 4, Feb. 25, '85	432	96	30
do	do	No. 5, March 5, '85	. .	336	328
do	do	No. 6, March 23, '85	. .	28	14
Girard,	do	No 1, April 2, '85	. .	. .	672
Bartley,	Christie Bros.,	No. 1, Oct. 11, '84	125	85	65
do	do	No. 2, Nov. 9, '84	30	15	8
do	do	No. 3, Dec. 20, '84	0	0	0
do	do	No. 4, Nov. 18, '84	18	19	20
do	do	No. 6, Dec. 24, '84	7	5	5
do	do	No. 7, Jan. 15, '85	15	36	19
do	do	No. 8, Dec. 24, '84	18	9	9
Marshall,	Armstrong & Co.,	No. 1, June 27, '84	6	5	7
do	do	No. 2, Oct. 29, '84	86	160	100
do	do	No. 4, March 9, '85	. .	50	120
do	Gibson & Co.,	No. 1, Nov. 10, '84	12	97	10
do	do	No. 2, Nov. 24, '84	82	0	68
do	Greenlee & Co,	No. 1, Nov. 15, '84	140	117	120
do	do	No. 2, Jan. 16, '85	110	114	132
do	Lappe & Co.,	No. 1, Jan. 27, '85	7	0	0
do	do	No. 2, Jan. 28, '85	30	0	25
do	Conners & Fishell,	No. 1, Oct. 19, '84	136	110	72
do	do	No 2, Nov. 19, '84	127	72	124
do	Boyd & Co.,	No. 1, Dec. 10, '84	415	178	226
Kennedy, Babbitt Bros.,		No. 1, Jan. 5, '85	5	5	5
Henderson, Johnson & Co,		No. 2, Oct. 3, '84	5	5	5
Kennedy, M. L. Lockwood,		No. 1, Feb. 17, '85	198	0	178
Scully, Associated Producers,		No. 1, Dec. 12, '84	333	62	0
Kennedy,	do	No. 2, Dec. 13, '84	5	12	12
do	do	No. 3, April 9, '85	. .	. .	0
Sutton & Scully	do	No. 4, April '85	. .	. .	0
do	do	No. 5, Feb. 19, '85	590	100	100
Scully,	do	No. 6, April 2, '85	. .	. .	25
Kennedy,	do	No. 8, April 3, '85	. .	. .	0
Sulton & Scully,	do	No. 9, March 14, '85	. .	0	0
do	do	No. 10, March 25, '85	. .	120	192
Kennedy,	do	No. 12, March 12, '85	. .	. .	345
do	do	No. 13, April '85	. .	. .	0
Bredin,	do	No. 15, April 7, '85	. .	. .	1,296
Sutton & Scully,	do	No. 18, April 6, '85	. .	. .	432
Wallace, Fisher Oil Co.,		No. 10, Oct. 15, '84	4	15	9
do	do	No. 11, Oct. 28, '84	39	37	12
do	do	No. 12, Nov. 6, '84	3	2	0
do	do	No. 14, Nov. 17, '84	70	65	62
do	do	No. 15, Dec. 5, '84	9	5	3
do	do	No. 16, Jan. 10, '85	50	35	33
do	do	No. 17, Feb. 10, '85	5	3	4
do	do	No. 18, ——— '85	. .	40	43
Marshall,	do	No. 1, Nov. 29, '84	115	100	100
do	do	No. 3, Nov. 14, '84	202	110	110
do	do	No. 4, Jan. 13, '85	947	885	45
do	do	No. 5, Jan. 11, '85	167	55	53
do	do	No. 6, Nov. 12, '84	97	105	106
do	do	No. 8, Dec. 16, '84	892	0	656
do	do	No. 9, March 9, '85	. .	3	0
do	do	No. 10, March 2, '85	. .	219	252
do	do	No. 12, Feb. 18, '85	57	0	0
do	do	No. 13, March 20, '85	. .	25	50
do	do	No. 14, March 31, '85	. .	. .	936
do	do	No. 16, April 10, '85	. .	. .	758
do	do	No. 17, March 11, '85	. .	624	108
McLaughlin, Clark, Reep & Sutton,		No. 1 Feb. 24	. .	25	20
Mangel, M. Murphy,		No. 1, March 12, '85	. .	7	25
Lavery, J. H. Markham,		No. 1, March 18, '85	. .	100	100
Girard, I E. Ackerly & Co.,		No. 1, April 2, '85	. .	. .	1,152
do	do	No. 2, April 10, '85	. .	. .	2,380
Total			7,341	5,876	12,290

A BUFFALO OIL COMPANY SUES THE STANDARD.

In the Supreme Court at Buffalo, April 7th, the Buffalo Lubricating Oil Company, limited, filed a complaint against Hiram B. Everest, Charles M. Everest, John D. Archbold, Henry H. Rogers, the Acme Oil Company, the Vacuum Oil Company, and the Standard Oil Company, in which they charge the defendants with successful conspiracies against their business and ask $250,000 damages. The plaintiffs allege that their business in 1882 and 1883 was in a prosperous condition, their factory, having at that time capacity to put upon the market 20,000 barrels of lubricating oil at a profit of $140,000, and charged the defendants with having prevented them from promoting their business at Rochester and elsewhere by circulating reports that their oils were of inferior quality, and with conspiring to induce their employes, so negligently to conduct their business by misplacing pipes and machinery, and making unnecessarily hot fires as to cause explosions and fire and destroy their works. They charge that the conspirators induced Albert A. Miller, a skilled workman in the employ of the plaintiffs, to so construct their works that the "tail" house, built of wood, was dangerously near the furnaces and the safety valves of the boilers would not answer the purposes for which they were designed.

THE ACME OIL COMPANY'S new filling station recently completed at Olean, is 180 x 80 feet in size, three stories high, with two story L, 50x60 feet. There is also a new brick storehouse, 60x 40 feet, one and a half stories. The filling station is protected on the northeast by a heavy brick fire wall, there being several small storage tanks located very near. The building is superior in many details to the old structure, and affords better facilities for the work for which it is intended. Its total cost was about $15,000.

THE Sherman well, Sugar Run, is located near the southeast corner of warrant 3,732, Corydon township, McKean county. It is in close proximity to a well sunk years ago by Knox Bros. and abandoned, as the show of oil at that time was not deemed of sufficient importance to develop into a producing well. It made a good response when shot but is now doing less than three barrels a day.

A SEAT in the New York Produce Exchange recently changed hands for a consideration of $2,950.

MARCH OPERATIONS.

THE ENTIRE REGION,—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN MARCH, 1885.

Allegany Field.

Lot.	Owner.	Barrels.
Alma, lot 86,	Shirley & Hochstetter, No. 2	5
Wirt, lot 1,	Applehee Bros., No. 2	8
do 60,	(I. Jordan farm) Lester Jordan & Co	5
do	(Skinner farm) H. H. French & Co	2
Bolivar, lot 5,	McCalmont Oil Co., No. 3	5
Clarksville, lot 12,	National Transit Co., (gas)	dry

Miscellaneous.

Near Aurora, N. Y., Allen & Co (salt well) dry

Wells completed	7
Production	25
Dry	2

Bradford Field.

Warrant 2258,	Geo. H. Van Vleck		15
Moody tract,	Emery Oil Co	No 106	25
Stinson, Asher Brown		No 9	5
Rutherford,	J T Jones,	No 30	10
Pike,	do	No 9	10
Wilson,	Fisher Oil Co	No 4	10
Brennan,	A. W. Boyd	No 14	10
Van Campen,	Gregg & Stearns	No 5	12
do	Wm Doe,	No 6	12
Bingham, lot 579,	Union Oil Co	No 13	40
do 570,	do	No 14	25
do 570,	do	No 15	16
do 570,	do	No 19	25
do 575,	do	No 22	50
do 567,	Associated Producers Co	No 34	25
do 566,	Associated Producers Co	No 37	40
do 590,	Associated Producers Co	No 40	30
do 557,	Rose & Byron		40
do	— Rose & McLeod	No 6	40
do 594,	Bayne & Fuller	No 4	25
Niles tract,	Chapin & Co		10
Sugar Run,	Holmes lot, Chapin & Co		5
do	Sherman & Co.		8

Wells completed	23
Production	488
Dry	0

Warren and Forest.

Glade and other Towns.

Kinzua Village,	Swift farm, Parker & White,	No. 2 est.	10
Cobham,	Union Oil Co	No 21	gas
Davis,	Davis Bros		6
Lacey,	Butts, Harley & Waugeman	No 1	3

Wells completed	4
Production	19
Dry	1

Clarendon.

53,	Union Oil Co	No 21	5
53,	do	No 22	3
464,	A Branch & Co	No 1	5
526,	E O Emerson	No 6	8
527,	Goal Bros	No 4	7
590,	Clark & Co	No 2	dry

Wells completed	6
Production	28
Dry	1

Tiona.

201,	Wesley Chambers	No 1	6
201,	do	No 2	6
201,	L H Best	No 2	6
204,	W J Wood & Co	No 2	8
204,	do	No 3	6
202,	E O Emerson	No 2	5
204,	Mandell Oil Co	No 3	6
204,	Walter Clark		8
204,	Booth, Bovaird & Seyfang	No 9	8
242,	E O Emerson	No 1	6

Wells	10
Production	65

Cooper District.

438,	Shank & Emery	No 23	10
Cooper tract,	Campbell & Co		6

Wells	2
Production	16

Balltown.

3194,	Porcupine Oil Co	No 31	30
3195,	Proper Reserve Oil Co	No 6	20

Wells	2
Production	50

Miscellaneous.

Forest, 5214, J. Goff & Co dry

Well	1
Production	0
Dry	1

Lower Country.

Venango.

Button,	J B Smithman	No 5	5
McCalmont,	S P McCalmont	No 6	8
Diamond,	Darr & Manning	No 6	7
Keberline,	Oil City Fuel & Supply Co		dry
Galey,	Dennison & Co		dry

Vicinity Emlenton.

Hannah Sloan,	Dr. Hamilton		5
McCalmont,	Walrobenstein		6

Wells	7
Production	31
Dry	2

Clarion.

Mike Starr,	Joel Baum & Co (gas)		dry
Young,	Young Farm Oil Co		12
do	Kahl Bros.		12
do	McKeever & Co		10

Wells	4
Production	41
Dry	1

Butler and Armstrong.

Clay,	Queen Bros		5
Gallagher,	Hunter & Cummings		10
Muenster,	Phillips Bros	No 5	35
Abner Kelly,	Meldren Bros	No 1	10
Kelly Station,	Fertig, Pitts & Alshouse		dry
Herman Station,	Fisher Oil Co		12
Ribald,	Painter & Tinsman		dry
Hoon,	McGrew & Bros		dry
Arch Kelly,	Hooks Bros	No 3	35
Black,	Babbitt & Co		6
Hoon,	Columbia Oil Co		dry

Wells	11
Production	113
Dry	4

Thorn Creek.

Wallace,	Fisher Oil Co	No 18	50
do	do	No 19	15
Marshall,	do	No 9	5
do	do	No 10	336
do	do	No 13	45
do	do	No 14	nothing
do	do	No 17	550
do	Armstrong & Boyd	No 4	75
Buhl,	Associated Producers	No 9	nothing
do	do	No 10	885
Kennedy,	do	No 12	215
Mushrush,	Phillips Bros	No 5	335
do	do	No 6	40
Girard,	Alshouse	No 1	dry
Lavery,	Markham	No 1	75
Alexander Welsh,	Christie Bros	No 1	dry
Wm. Kennedy,	S. W. Harley, Agt		dry
Kersting,	Sutton & Harper		dry
Mangel,	Murphy	No 1	15
Scully,	Fisher Oil Co		dry

Wells	20
Production	2641
Dry	5

DRILLING WELLS, RIGS UP AND BUILDING MARCH 31, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
2,	Coast Oil Co No 31 (old)	rig
3,	Coyle (old)	rig
4,	McEnroe & Elliott (shut down)	drilling
4,	Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12,	do No 10 (old)	rig
50,	The Union Oil Co No 8 (old)	rig
50,	do do No 9 (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Pickering & Smith (foundation laid) (old)	rig

New rigs	0
Old rigs	10
Drilling	1
Total	11

Alma.

1,	Phillips Bros No 14 (shut down)	300
1,	do No 15 (old)	rig
23,	Vance & Horton (old)	3 rigs
24,	New Milford Oil Co old)	2 rigs
24,	W F Jones (old)	rig
37,	Perrin & Young (old)	rig
51,	Sawyer & Co (old)	rig
55,	W P Decker (old)	rig
86,	Shirley & Hochstetter No 3	rig
107,	do No 6 (old)	rig
86,	Finnegan & Co No 1	drilling
86,	do No 2	rig bldg
86,	do No 3	rig bldg
78,	Torry & Pirdun	drilling
88,	Duke & Co (old)	rig
142,	Dean & Smith No 5 (old)	rig

New rigs	3
Old rigs	14
Wells drilling	2
Total	19

Wirt.

1,	Applebee Bros No 3	rig
14,	Lester & Co. (old)	rig
33,	Miner, Wellman & Fuller (old)	rig
52,	Allegany Gas Co (old)	rig
34,	Wirt Centre, Mulkins & Co	sand
Skinner farm,	H H French & Co	rig
do	do	rig bldg
6.	Jordan farm, Calkins & Peters	rig
61,	National Transit Co (for gas)	900

New rigs	4
Old rigs	3
Wells drilling	2
Total	9

Bolivar.

4,	(Cole tract) Matson & Caldron (old)	rig
7,	W & J Duke No 16 (old)	rig
7,	Coast Oil Co No 20	drilling
7,	do No 42 (old)	rig
7,	do No 45 (old)	rig
15.	John Fav	sand
15,	Sawyer & Co (old)	rig
23,	F C Streeter & Co No 7 (old)	rig
23,	Irvin & Morgan No 5 (old)	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	do do No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
63,	N O Levens	drilling

New rigs	0
Old rigs	10
Drilling	3
Total	13

Clarksville.

9,	Heuston & Brecht No 4 (old)	rig
9,	Merritt (old)	rig
McDougal,	Clover & Co	500
10,	Whipple Bros	drilling
13,	A Warner	rig
20,	Ernhart farm, Ackerly & Samuels	drilling

New rigs	1
Old rigs	2
Wells drilling	3
Total	6

Genesee.

8,	f Willets (to the top of sand	drilling
8,	do (to the top of sand)	drilling
14,	Merwin (old)	rig
21.	Empire Gas Co No 3 (old)	rig
22,	I Willets No 13 (old)	rig
22,	do No 14 (old)	rig
22,	do No 15 (old)	rig
22,	do (old)	rig
23,	Hughes & Coughlin (old)	rig
23,	Emery Oil Co No 16 (old)	rig
23,	do do No 17 (old)	rig
Champlain,	Emery Oil Co No 8 (old)	rig
29,	William Cranston (old)	rig
31,	H L McMullan & Co (old)	rig
38,	S E Young (old)	rig
38,	Empire Gas Co (old)	rig

New rigs	0
Old rigs and wells shut down	16
Drilling	0
Total	16

Miscellaneous.

Gains, Peck & Tait (old)	rig
Bradford Co, Pa, New Era Co	drilling
Near Binghampton, N Y, Mayer & Co (shut down)	1100
Wells, N Y, Carroll & Co (old)	rig
Chemung Co,, N. Y., Ira Sawyer fishing	900
Saratoga Co., N Y, Saratoga Oil and Gas Co	drilling

New rigs	0
Old rigs and shut down	4
Wells drilling	2
Total	6

Bradford Field.

East and West Branches.

Paton, McClure & Co (old) . . . . . rig
Clark, McCray Bros (old). . . . . rig
Willis, do No 29 (shut down) 550
Glass, Barnsdall Bros (old) . . . . . rig
Dent, P C L & P Co No 64 (old) . . . rig
do do do No 65 (old) . . . rig
do Whitney & Wheeler No 40 (old) rig
Mill lot, Whitney & Wheeler No 9 (old) rig
Paul, Bayne, Fuller & Melvin No 5(old) rig
Wilson, West Branch Oil Co No 11 (old) rig
Cary, Duncan No 4 (old) . . . . . rig
Mack, Fisher Brothers No 19 (old) . . rig
Kelly, A K Darrow (shut down) . . . sand
Bowen lands, Phillips & Co, (shut down) 600
Hinchey, McMurray Bros & Co No 6 . (old) rig
Prain, Brinton & Dale (old) . . . . . rig bldg
Stinson, Asher Brown No 10 . . . . . drilling
Pike, J T Jones No 10 800
do do No 11 . . . . . rig

Quintuple.

25, O H Strong (old) . . . . . rig
44, J W Humphrey (old) . . . . . rig
107, J S Wilson (old) . . . . . rig bldg
220, Clark, Stearns & Co (old) . . . . rig
260, E. T. Howes (old) . . . . . rig

New rigs 1
Old rigs and shut down 21
Drilling 2
Total 24

Kendall Creek.

Melvin, P C L & P Co No 85 (old) . . rig
do do do No 86 (old) . . rig
do do do No 87 (old) . . rig
Borden, Urquhart & Lavens (old) . . rig
Morton, Dan Clark No 3 (old) . . . . rig
do do do No 4 (old). . . . . rig
Willets, I Willets (old). . . . . rig

New rigs 0
Old rigs 7
Drilling 0
Total 7

Foster Brook.

E T Co, Boyne, Penny & Coleman No 11 (old) rig
do F L Blackmarr & Post No 5(old) rig
do Utter & Co (old) . . . . . rig
C B & H, Watson Oil Co No 33 (old) . rig
do do do No 34 (old) . rig
do Juter & Yager (old) . . . . . rig
do P W Bulger & Dana (fishing) sand
do R Y Mitchell . . . . . rig
Snyder, C Sharp & Co . . . . . drilling
do Foxburg Oil Co 50
S L Wilson, W A Wade No 4 50

New Rigs 1
Old Rigs and shut down 7
Wells drilling 3
Total 11

Four Mile.

Van Campen Wm M Brown (old) . . . rig
do Merrill & Perrin (old) . . rig
do Geo Van Campen & Sons No 21 (old) . . . . . rig
do Geo Van Campen & Sons No 22 (old) . . . . . rig
do Gregg & Stearns No 6 . drilling
do do No 7 . rig bldg
do Wm Doe No 7 . . . . . drilling
do do No 8 . . . . . rig bldg
Waters, Griffin & Howard No 2 (old) . rig
C B & H, James Smith (old) . . . . . rig
Stevens, Burns Bros (shut down) . . . drilling

New rigs 2
Old rigs and shut down 7
Drilling. 2
Total. 11

Indian Creek.

Barse, Union Oil Co No 36 (old) . . . . rig
North Branch, J D Downing & Co (old) 2 rigs
Hamlin, Miller & Odell No 4 (old) . . rig
Zimmer, Shear Bros (old) . . . . . 2 rigs
Morse, Morse & Brown (old) . . . . . rig
Miles Loop, Union Oil Co No 25 (old) rig
Gale, Mallory & Co . . . . . sand
Keating, Forest Oil Co No 48 . . . . . rig

New rigs 1
Old rigs 8
Drilling 1
Total 10

Cole Creek.

Rew, Capt E Frawley (old) . . . . . rig
Warrant 2263, Union Oil Co No 6 (old) rig
do 2263, do No 7 (old) rig
Bingham, lot 537, Union Oil Co No 31 (old) rig
do lot 550 do No 32 (old) rig
do lot 495 do No 3 (old) rig
do lot 570 do No 16, 1000
do lot 570 do No 17, rig
do lot 570 do No 18, rig
do lot 578 do No 20, rig
do lot 578 do No 21, rig
do lot 577 do No 23, 500
do lot 578 do No 24, 500
do lot 547 do No 25, 500
do lot 579 do No 27, 300
do lot 578 do No 28, rig
do lot 578 do No 29, rig bldg
do lot 577 do No 31, rig bldg
do lot 583 Associated Producers No 38, sand
do lot 592 do No 39. 1500
do lot 591 do No 41, drilling
do lot 596 do No 42, 200
do lot 589 do No 43, rig
do lot — do No 44, rig bldg
do lot 557 Rose & Byron (old). . rig
do lot 567 Rose, Byron & McLeod (old) . . . rig
do lot 546 C P Byron No 1 . . . 1500
do lot 590 Bayne & Fuller No 3 (fishing) 1800
do lot 594 do No 5 500
do lot 593 T J Melvin No 5 . . . sand
do lot 591 do No 6 . . . rig

New rigs 10
Old rigs 8
Drilling 13
Total 31

Kinzua.

Bingham, lot 28, Union Oil Co No 56 100
do lot 20, do No 57 rig bldg
do Emery Oil Co No 40 400
Niles Tract, Chapin & Co . . . . . rig bldg

New rigs 2
Old rigs 0
Drilling 2
Total 4

Miscellaneous.

Warrant 3732, Sugar Run, Mead, McKinney & Co . drilling
do 3732, do John Best & Co 100

New rigs 0
Old rigs 0
Drilling 2
Total 2

Warren and Forest.

Glade and Other Towns.

Fuller farm, Kinzua, Jas Parker & Co.. No 1 . . drilling
Wm Harris, do Morrison, Best & Co . . . 700
Milton Harris, do Fogel & Brown . 400
Whitcomb, do Sherman & Wells rig
H English, do Jones & Thompson, . . . rig bldg
Enoch Marsh, do Porter & Conly . rig bldg
Hoop, do Parker, White & Nelson . rig bldg
Glade, 5535, French farm, Beardslee . 1000
Elk twp, 5542, Schnur & Robbins (old) rig
Chambers pur, Anchor Oil Co No 21 . 800
Cobham, Union Oil Co No 13 (old) . . rig
Cobham, Union Oil Co No 22 400
Wardwell, Benedict & Robinson . . . rig
Foster, Wesley Chambers No 1 (old) . rig
Irvine, Brown Bros No 5 . . . . . rig
McWilliams, Pickett & Co 200
Nesmith, Ben Nesmith . . . . . drilling
Verbeck, C. W. H. Verbeck . . . . . rig
Davis, Phillip Becker . . . . . rig bldg
Clark, S M Coggswell & Co No 3 . . . rig
Eddy, Butts, Harley & Waugeman . . rig
Rankin, Hue & Hand (old) . . . . . rig
Nesmith, Best & Co (old) . . . . . rig
Shultz, Shultz & Co (old) . . . . . rig
Near Cemetery, S A Logan (old) . . . rig
Rogers, Barnsdall Brothers No 14 (old) rig
do do No 15 (old) rig
do do No 16 (old) rig
Morrison Run, Eldred . . . . . rig bldg

New rigs 11
Old rigs 10
Drilling 8
Total 29

Clarendon.

Stonehill, John Bell . . . . . sand
35, W. G Collins & Co . . . . . rig
54, D Beatty & Son No 36 (old) . . . rig
78. do do (old) . . . . . 2 rigs
463, Steelsmith & Co No 2 . . . . . rig bldg
464, King & Magee No 1 800
464, King & Magee No 2 (old) . . . . rig
464, Columbia Oil Co No 17 (old) . . . rig
466, J Smith & Son No 8 . . . . . rig
499, Munro & Finnegan No 4 (old) . . rig
499, do No 5 . . . . . rig
499, E O'Donnel No 2 . . . . . drilling
499, do No 3 . . . . . rig
526, E O Emerson No 7 500
526, do No 8 . . . . . rig
526, do No 9 . . . . . rig bldg
106, Golden & Co (old) . . . . . rig
107, Windsor Bros . . . . . 2 rigs
108, C H Filkins (old) . . . . . rig
495, W W Ballard No 4 (old) . . . . rig
527, Goal Bros No 3 . . . . . drilling
527, do No 5 (old) . . . . . rig
527, do No 6 . . . . . rig
527, do No 7 . . . . . rig
527, do No 8 . . . . . rig
561, F H Rockwell & Co No 13 (old) . rig
583, do No 14 (old) . rig
583, do No 15 (old) . rig
583, do No 16 (old) . rig
557, Dyson & Lowden No 7 100
557, do No 8 . . . . . rig
590, Clark & Co . . . . . rig bldg

New rigs , ... 12
Old rigs 9
Drilling. 5
Total 26

Tiona.

59, Fertig & Henne (shut down) . . . sand
75, do (shut down) . . . sand
75, do 500
110, do (old) . . . . . 2 rigs
110, do . . . . . 2 rigs
109, J S Patterson No 31 (old) . . . . rig
109, Schonblom & Townsend No 8 (old) rig
164, Hill & Powell (old) . . . . . rig
164, do (old) . . . . . rig
161, Helm & Mealey 100
163, Emerson & Joy No 1 . . . . . drilling
165, Whitehill & Co No 7 (shut down) 250
165, do do No 8 . . . . . rig
201, W Chambers No 3 . . . . . rig
201, do No 4 . . . . . rig bldg
204, W J Wood & Co No 4 . . . . . rig
202, E O Emerson No 4 200
202, do No 5 . . . . . rig
202, Mandell Oil Co No 1 . . . . . rig
202, Mandell Oil Co No 2 . . . . . rig bldg
204, Booth, Bovaird & Seyfang No 10 . sand
204, do No 11 . rig
204, do No 12 . rig bldg
205, H B Beatty & Bro 100
205, do . . . . . rig bldg
241, F W Winger, No 5 . . . . . rig
241, L Kraeer & Co No 3 200
241, do No 4 500
241, do No 5 . . . . . rig
241, do No 6 . . . . . rig bldg

New rigs 15
Old rigs and shut down 9
Drilling 8
Total 32

Cooper District.

Cooper tract, Lot A, C Campbell & Co, (old) rig
3193 lot B, Melvin, Walker & Co . . . drilling
404, M. Murphy . . . . . rig
439, McCalmont Oil Co . . . . . rig bldg

New rigs 2
Old rigs 1
Drilling 1
Total 4

Balltown.

3194, Porcupine Oil Co No 21 (old) . . rig
3194, do No 32 . . . . . rig
3395, Proper Reserve Oil Co No 7 . . . drilling
4821, Balltown Oil Co No 23 (old) . . . rig
4821, do do No 24 (old) . . . rig
4821, do do No 25 (old(. . . rig
4792, Howe Oil Co No 17 (old) . . . . rig
4792, do do No 18 (old) . . . . rig
5215, May, Kelly & Grandin No 29 . . . drilling

New rigs 1
Old rigs 6
Drilling 2
Total 9

Miscellaneous.

Warren, Grand Valley, W W Hague . drilling
New rigs 0
Old rigs 0
Drilling 1
Total 1

Lower Country

Venango.

McCalmont, S P McCalmont No 7 . . 200
Blood, William Baker . . . . . drilling
Pithole Creek, Sam. Hancock (old) . . rig bldg
O Lain, Playford & Co . . . . . drilling
McCormack, T H Phinney 400
Thomas Tarr, Joseph Gray . . . . . drilling
Kauffman, A P Dale . . . . . drilling
do Kauffman & Keigler No 2 . rig bldg
Mt. Hope, Dr. Galbraith & Co . . . . drilling
do Jacob Sheasley . . . . . rig
do Berringer & Graham . . . . rig
Cross, Rumsey & Riddle . . . . . rig bldg
Crawford, Hoffman & Co . . . . . rig bldg
Dale, Oil City Fuel Supply Co (for gas) 500
Pin Oak, J B Smithman No 3. . . . rig
Philadelphia tract, J K Bartlett . . . rig

Vicinity Emlenton.

Robinson, Gorman (old) . . . . . rig
Ritchie, Eben Crawford 200
Shippen, Emlenton Gas Co 900
Captain Grant, J P Crawford . . . . . rig bldg

New Rigs 8
Old Rigs 2
Wells drilling 10
Total 20

Clarion.

Amsler, Amsler Bros . . . . . sand
Deitrick, A Barber 900
Deitrick, Yonker & Deitrick 400
Frederick, White, Booth & Gifford . . rig
Young, Cogley Run Oil Co . . . . . rig
Berlin, Berlin & Son . . . . . rig
do Patterson & Leedom 800
Fisher, J. B Smithman . . . . . 3 rigs bldg
Stretman, Young Farm Oil Co . . . . rig bldg
Young, Al Wood . . . . . rig bldg
Pitch Pine, Stetman 200
Mehrten, John Mehrten . . . . . rig bldg
Wagner, Jacob Hahn 400
Panton, Panton . . . . . rig
Goughler, M R Martin 700
Smith, Jacob Hahn (old) . . . . . rig
Tole, do (old) . . . . . rig
Kennear, Howe & Co . . . . . rig
Sarah Furnace, Clarion Co (Connors farm) Morrow, drilling

New rigs 11
Old rigs 2
Drilling 8
Total 21

Butler and Armstrong—Various Sections.

Hoffman, McTamany & Co 900
Hermann Station, Bott, Slone & Co . . rig bldg
Pontius. Hunter & Cummings 100
Michael, do . . . . . rig bldg
Black, Black & Co (fishing) 1200
Neff, Phillips Bros No 2 1300
Crouse, do 1300
Muenster, do No 6 1200
Oswald, do 100
Witt, Hite & Co No 2 800
do Greenlee & Russell 400
do H McGuire & Co, No 6(fishing) 600
do do No 7 . . . . rig
Balph, Clark & Foster 400
Christina Hasler. H W Christie . . . 400
Widow Martin, R K Sutton & Sheffield rig
Sang, Dennison & Hartman. . . . . rig bldg
Archibald Kelly, Hooks Bros No 4 . . . rig bldg
do S Adams & Co 700
Abner Kelly, Meldren Bros & Co . . . rig bldg
Thos Kelly, Conley, Butler & Manifold 900
Daubenspeck, Wheeler & Story . . . rig
Kelly Heirs, J W McKee No 3 900
do do No 4 . . . . rig
John Kelly, Wm. Edmunds . . . . . rig
Story, Thos. McNeese . . . . . rig
John Kelly, Kelly & Edmunds . . . rig bldg
A Kelly, Black . . . . . rig
Hilliards, McFarland . . . . . drilling
Callery Station, Pittsburg Parties (old) rig
Bredin, Rigney & Co (old) . . . . . rig
Lighthold, Boyle & Co . . . . . rig bldg
Bilzert, Cramer & Co . . . . . rig bldg
Seibert, Seibert 400
do do . . . . . rig
R Jennings, R Jennings No 3 . . . . rig
Kramer, W A Dennison . . . . . rig bldg
Buffalo Creek, near Craigtown, Garrett, Gray & Bruce . . rig bldg
Galloway, on Semiconon Run, Christie & Hays . . 200
Camphell, J W McFarland . . . . . rig
Clark, Geasy (old) . . . . . rig

New rigs 20
Old rigs 3
Wells drilling 18
Total 41

Thorn Creek.

Marshall, Fisher Oil Co., No 7 . . . sand
do do No 11 1150
do do No 15 . . . . sand
do do No 16 . . . . sand
do do No 18 . . . . rig
do U S Oil Co., No 2 1000
do Armstrong, Boyd & Semple sand
Mushrush, Phillips Bros No 7 . . . . sand
do do No 8 1400
do do No 9 1500
do do No10 1200
do do No11 400
Dunlap, do No 1 1400
Girard, do No 1 . . . . sand
Lavery, do No 1 200
do do No 2 100
do do No 3 . . . . rig
do do No 4 . . . . rig
I Wise, do No 1 . . . . rig
Lavery, J H Markham . . . . . rig bldg
Scully, Assoc'd Producers Co No 6 . sand
Kennedy, do No 8 sand
do do No 11 sand
do do No 13 sand
do do No 17 1100
do do No 22 700
Sutton & Scully do No 18 sand
do do No 19 1500
do do No 20 1300
Buhl, do No 7 sand
do do No 14 900
do do No 16 900
do do No 21 900
do do No 23 100
do do No 4 rig
do do No 25 rigbldg
do do No 26 rig
Breden, Asso'd Producers No 15 . . . sand
Rankin, K H McBride & Campbell . . sand
Mangel, Murphy No 2 250
do do No 3 . . . . sand
do do No 4 1550
do do No 5 1500
do Divi ion 1 M Murphy 200
do do 9, do . . . . rig bldg
do do 12, Barnsdall 100
do K H McBride & Campbell . . 50
do W C McBride & Co 50
do Connors & Fishell No 1 400
do Connors, Fishell & Starr No 2 rig
do Thompson & Bolard 400
do do 100
do do . . . . 2 rigsbldg
do Greenlee & Co No 1 900
do do No 2 100
do do No 3 . . . . rig
do H H Stow 400
H H Wise, McBride & Campbell . . . rig bldg
Crawford, James Gillespie & Co . . . drilling
Girard, J H Markham 1500
do I E Ackerly & Co . . . . . sand
Noel, H H Stow 1300
do do . . . . . 2 rigs
do do . . . . . rig bldg
McLaughlin, Reep & Sutton 100
do Snee & Co . . . . . rig
do Bennett & Co . . . . . rig
Morrison Heirs, Reep & Sutton 400
Morrison, C. W. Turner . . . . . rig
J E Maharg, O M Russell . . . . . rig
Hartman, C G Glatzau & Co 100
do do . . . . . rig
do Alshouse, Stewart & Co . . rig bldg
Renfrew, Forgie & Co . . . . . rig
do McKelvy & Co . . . . . rig
Kennedy, Christie Bros No 1 1100
do do No 2 100
Bartley, do No 5 1400
Mates, Kifer & Co 1400
I Wise, Frederick & Campbell 850
McElwaine, Lappe & Co . . . . . rig bldg

New rigs 26
Drilling 57
Total 83

FIELD OPERATIONS SUMMARIZED.

Wells Completed, With the Estimated Production on the Last Day of the Month.

ALLEGANY.

Division of Field.	MARCH, 1885. Wells.	Prod'n.	Dry.	FEBRUARY, 1885. Wells.	Prod'n.	Dry.
Scio	0	0	0	0	0	0
Alma	1	5	0	2	2	1
Wirt	3	15	0	3	13	1
Bolivar	1	5	0	0	0	0
Clarksville	1	0	1	0	0	0
Genesee	0	0	0	0	0	0
Miscellaneous	1	0	1	1	0	1
Total	7	25	2	6	15	3

BRADFORD FIELD.

Division of Field.	MARCH, 1885. Wells.	Prod'n.	Dry.	FEBRUARY, 1885. Wells.	Prod'n.	Dry.
E. & W. Branches	6	75	0	2	18	0
Kendall Creek	1	10	0	1	5	0
Foster Brook	0	0	0	0	0	0
Four Mile	2	24	0	0	0	0
Indian&Meeks Cr'ks	0	0	0	0	0	0
Cole Creek	11	356	0	3	20	0
Kinzua	3	23	0	6	228	0
Total	23	488	0	12	271	0

WARREN AND FOREST.

District.	MARCH. Wells.	Prod'n.	Dry.	FEBRUARY. Wells.	Prod'n.	Dry.
Glade	4	19	1	2	10	1
Clarendon	6	28	1	6	38	0
Tiona	10	65	0	9	56	0
Cooper	2	16	0	0	0	0
Balltown	2	50	0	1	20	0
Miscellaneous	1	0	1	1	0	1
Total	25	178	3	19	124	2

LOWER COUNTRY.

District.	MARCH. Wells.	Prod'n.	Dry.	FEBRUARY. Wells.	Prod'n.	Dry.
Venango	7	31	2	10	88	2
Clarion	4	41	1	1	5	0
Butler and Armstrong	31	2754	9	16	2313	3
Total	42	2826	12	27	2406	5

GRAND SUMMARY.

District.	MARCH. Wells.	Prod'n.	Dry.	FEBRUARY. Wells.	Prod'n.	Dry.
Allegany	7	25	2	6	15	3
Bradford	23	488	0	12	271	0
Warren and Forest	25	178	3	19	124	2
Lower Field	42	2826	12	27	2406	5
Mar. Total	97	3517	17	64	2816	10
February Total	64	2816	10			
Difference	33	701	7			

Rigs Up and Building.—Wells Drilling.

ALLEGANY FIELD.

Division of Field	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Scio	0	10	1	11	0	10	1	11
Alma	3	14	2	19	0	14	1	15
Wirt	4	3	2	9	0	4	4	8
Bolivar	0	10	3	13	0	12	2	14
Clarksville	1	2	3	6	1	3	1	5
Genesee	0	16	0	16	0	16	0	16
Miscellaneous	0	4	2	6	0	3	3	6
Total	8	59	13	80	1	62	12	75

BRADFORD FIELD.

Division of Field.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.
E. & W. Branches	1	21	2	24	2	18	3	23
Kendall Creek	0	7	0	7	0	7	0	7
Foster Brook	1	7	3	11	0	6	1	7
Four Mile	2	7	2	11	1	7	3	11
Indian Creek	1	8	1	10	1	7	1	9
Cole Creek	10	8	13	31	14	6	7	27
Kinzua	2	0	2	4	0	2	1	3
Miscellaneous	0	0	2	2	1	0	1	2
Total	17	58	25	101	19	53	17	89

WARREN AND FOREST.

Division of Field.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Glade	11	10	8	29	7	7	4	18
Clarendon	12	9	5	26	12	12	9	33
Tiona	15	9	8	32	10	8	9	27
Cooper	2	1	1	4	1	1	1	3
Balltown	1	6	2	9	1	8	1	10
Miscellaneous	0	0	1	1	1	0	1	2
Total	41	35	25	101	32	36	25	93

LOWER COUNTRY.

Division of Field.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Venango	8	2	10	20	8	4	8	20
Clarion	11	2	8	21	7	0	9	16
Butler & Armstrong	46	3	75	124	27	4	63	94
Total	65	7	93	165	42	8	80	130

GRAND SUMMARY.

Field.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	FEB. 28, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Allegany	8	59	13	80	1	62	12	75
Bradford	17	58	25	100	19	53	17	89
Warren & Forest	41	35	25	101	32	36	25	93
Lower Country	65	7	93	165	42	8	80	130
Total Mar. 31	131	159	156	446	94	159	134	387
Total Feb. 28, '85	94	159	134	387				
Increase	37	0	22	59				

THE MACKSBURG FIELD.

The monthly report of the Macksburg field for April 1st showed a slight increase in new operations. Sixteen wells were added to the producing list having an estimated new production on the last day of the month of 342 barrels, while in February only 12 wells were added to the finished list. At the close of March there were 28 rigs up and building and 46 wells drilling, making a total of 74. On February 28th there were 17 rigs and 31 wells drilling in the district. There has lately been quite an exodus of drillers from the Bradford field to Macksburg, and the National Transit Company have sent some of their experienced field men to take care of the slowly increasing production. During the spring and summer, that stalwart antagonist of the Standard, Mr. George Rice, will lay a pipe line from his wells in the Macksburg field over the ridge to the Muskingum river. From a convenient point on this stream oil will be shipped by boat to the refineries on the Ohio. There is some activity in leasing lands outside the present well defined area.

WELLS COMPLETED IN MARCH.

Farm.	*Operator.*	*Barrels.*
Perkins,	J. C. Lineman, No. 3	40
J. O. Dutton,	M. B. McManus, No 2	12
Coal Lands,	Lee & Apple, No. 1	30
Hupp,	Green & Shirley, No. 1	15
L Devoll,	Bradley & Co No 3	15
Rice,	George Rice No 7	10
Devoll,	Lockwood & Co, No 3	20
Schilling,	Laney Bros, Borckman & Denman, No 1	15
Eagler,	W. G Decker, No 2	12
Eagler,	Garvin & Co, No 2	15
Shilling,	Denman, Mills & Mullen, No 2	8
do	C. N. Payne, No 2	10
Smithson,	Macksburg Oil Co No 2	10
Williams,	Union Oil Co No 3	20
McGinnis,	do No 1	50
do	do No 2	60
Wells		16
Production		342

RIGS UP AND BUILDING AND WELLS DRILLING.

Farm,	*Operator.*	*Depth.*
Eagler,	W E Decker No 2	1400
McLouth,	Bradley Oil Co No 1	600
Coffee,	Barnsdall & Denman No 1	500
do	do No 2	300
do	do No 3	rig
Phelps,	do No 4	rig
Merrow,	do No 5	rig
Schilling,	Denman, Mills & Mullen No 2	700
Finch,	do No 1	700
Schilling,	C. N. Payne No 3	800
Gervez,	do No 1	1800
Devoll,	do No 2	300
do	do No 3	rig
Patton,	John Denman, No 1	1300
do	Mills & Mullen, No 2	rig
Smithson,	Macksburg Oil Co No 3	1200
do	do	rig
Clinedinst,	J D Wolf, No 4	400
do	do	rig
Hupp,	Union Oil Co No 2	600
do	do No 3	rig
Williams,	do No 4	1000
McGinnis,	do	rig
Perkins,	J C Lineman No 4	800
do	do No 5	rig
do	Waugh & Porter, No 2	150
do	do No 3	rig
Coal Lands,	Lee & Apple, No 2	1650
do	do No 3	1550
do	do No 5	300
do	do	rig
Rice,	George Rice. No 8	1000
do	do No 21	rig
do	do No 23	200
do	do No 24	rig
do	do No 25	800
Kathary,	Bailey & Kathary	1100
Coal Lands,	Laing & Geider, No 8	1200
do	do No 10	800
do	do No 11	drilling
do	do No 12	rig
Devoll,	Lockwood & Bradley, No 4	100
do	do No 5	rig
Stone,	do No 1	1400
Jersey,	Laney Bros & Borckman No 9	1000
do	Laney & Borckman No 10	200
do	do No 13	rig
Schilling,	Laney, Borckman & Denman No 2	rig
Atkinson,	Stevens & Longfellow No 4	1000
Coffee,	Clark & Spellacy No 1	1150
Wiper,	Porter & Gillmor	1350
A Stevens,	Lineman & McKevett No 4	300
do	do No 5	rig
Morris,	Mills & Austin No 1	1500
C. J. Eagler,	Clark & Spellacy No 2	rig
do	Garvin & Co No 3	rig
Big Run,	Bradley & Co (wildcat)	rig
Warren,	Denman No 2	rig
do	do No 3	rig
do	do No 4	rig
Dyer,	Boden & Aiken No 1	rig
do	do No 5	500
do	do No 6	550
do	do No 8	1200
do	do No 9	300
do	do No 10	400
do	do No 11	rig hldg
Federal Creek,	St. James Oil Co No 1	1600
Caldwell,	Caldwell Gas & Oil Co	drilling
W. Atkinson,	D W Clark & Co No 2	1100
F. F Perkins,	C J Garvey No 3	1300
do	do No 5	700
do	do	rig
Oshorne,	J C Lineman	100
Rigs		28
Drilling		46
Total		74

STOCKS ABROAD.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

Stocks Afloat and Ashore.	March 28, 1885. Barrels.	Feb. 21, 1885. Barrels.
London	104,839	103,156
Trieste	21,682	29,662
Seven Continental Ports	931,615	914,811
Total Stocks afloat and ashore	1,058,136	1,047,629
Decrease in Stocks since February 21	10,507	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1885. The shipments represent the amount of oil going to the interior of Europe from the seaports.

STOCKS IN FOREIGN PORTS MARCH 28, 1885.

	Stocks W'k end'g M'ch 28.		Stocks Afloat W'k end'g M'ch 28.		Loading. W'k end'g M'ch 28.		Grand Total Stocks Afloat & Loading.		Receipts. From July 1.		Shipments From July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	292,844	39,353	27,816	56,386	. .	9,100	320,660	104,839	431,901	426,776	487,653	486,964
Trieste	46,926	19,682	13,723	2,000	. . .	. . .	60,649	21,682	189,357	124,279	166,582	120,949
Bremen	727,219	363,820	37,437	48,331	46,500	50,000	811,156	462,151	652,533	430,965	819,941	863,726
Hamburg	136,580	56,041	67,772	60,785	34,300	57,500	238,652	174,326	656,804	758,708	853,333	875,212
Antwerp	79,314	55,361	64,998	61,459	55,300	22,600	199,612	139,420	662,778	827,990	793,842	898,599
Rotterdam	56,594	28,336	. . .	6,454	. . .	18,000	56,594	52,790	171,227	167,194	180,819	196,803
Amsterdam	55,375	33,140	8,111	30,664	. . .	6,500	63,486	70,304	238,570	191,399	220,038	201,269
Stettin	18,429	13,432	4,000	13,347	. . .	. . .	22,429	26,779	181,966	209,830	231,878	238,016
Danzig	3,045	3,203	2,100	2,642	. . .	. . .	5,145	5,845	62,407	66,088	70,450	74,930
Total	1,076,556	553,333	184,418	223,682	136,100	154,600	1,397,074	951,615	2,626,285	2,652,174	3,179,299	3,348,555

	1882.	1883.	1884.	1885.
Total stocks exclusive Trieste	1,033,720	1,144,252	1,369,400	592,686
Total afloat, exclusive Trieste	144,821	392,953	212,234	280,068
Total loading, exclusive Danzig, London and Trieste	298,000	138,400	136,100	163,700
Total	1,477,441	1,675,605	1,717,734	1,036,454
Afloat and loading for direct Continental Ports	14,800	54,700	42,800	10,600
" " " Baltic Sea, exclusive Stettin and Danzig	26,900	12,400	10,000	15,750
" " " English harbors, exclusive London	123,000	73,500	15,000	26,800
Grand Total	1,642,141	1,816,205	1,785,534	1,089,604

OFFICIAL STATEMENT, EXPORTS OF PETROLEUM, FEBRUARY, 1885.

BY JOSEPH NIMMO, JR., CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., MARCH 27, 1885.

CUSTOMS DISTRICT.	MINERAL CRUDE.		NAPHTHAS.		ILLUMINATING.		LUBRICATING AND PARAFFINE OIL.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
Boston & Charlestown Mass	. . . . .	. . . . .	. . . . .	. . . .	658,826	72,789	20,333	6,210	. . . . .	. . . .	679,159	78,999
New York, N. Y.	2,520,329	179,888	69,747	10,777	22,836,301	1,956,576	984,328	197,174	. . . . .	. . . .	26,460,705	2,354,415
Philadelphia, Pa.	1,358,977	89,800	502,815	35,919	4,219,435	348,880	36,948	5,348	. . . . .	. . . .	6,118,195	479,947
Baltimore, Md.	. . . . .	. . . .	. . . . .	. . . .	764,026	59,680	16,965	2,950	. . . . .	. . . .	780,991	62,630
San Francisco, Cal.	. . . . .	. . . .	2,850	940	24,710	5,782	1,004	694	. . . . .	. . . .	28,564	7,416
All other districts	435	65	3,600	406	170,262	25,228	768	354	. . . . .	. . . .	175,065	26,053
Total for Feb., 1885	3,879,761	269,753	579,012	48,042	28,723,500	2,478,935	1,060,346	212,730	. . . . .	. . . .	34,242,679	3,009,460
Total for Feb., 1884	3,976,126	334,312	885,818	74,126	25,184,189	2,513,038	898,006	187,368	515,424	38,968	31,459,563	3,147,812
Total for 8 months ended Feb. 28, 1885	58,731,925	4,256,529	11,418,563	938,882	305,983,061	26,859,891	8,232,128	1,704,085	3,455,718	189,976	387,821,395	33,949,363
Total for 8 months ended Feb. 29, 1884	45,189,349	3,515,199	12,791,553	865,188	281,921,468	25,621,277	6,982,098	1,450,154	3,599,190	235,748	350,483,658	31,687,566

CRUDE QUOTATIONS FOR MARCH, 1885.

Day of Week.	Day of Month.	Bradford. Opened.	Highest.	Lowest.	Closed.	Oil City. Opened.	Highest.	Lowest.	Closed.	New York. Opened.	Highest.	Lowest.	Closed.	Pittsburgh. Opened.	Highest.	Lowest.	Closed.
M	2	82¾	83⅜	82⅝	82¾	83	83½	82½	82⅝	82¾	83½	82⅝	82⅞	82¾	83⅛	82⅝	82¾
T	3	82½	82½	79	80	83	83	79⅜	79⅞	82½	82½	79¼	80⅛	82¾	82¾	79⅞	80
W	4	79⅞	80¾	78¼	79⅜	80½	80⅜	78¼	79½	80	80⅜	78¼	79¾	80	80¾	78½	79⅜
T	5	79⅞	80¾	79½	79½	79½	80⅞	79½	79½	79½	80¾	79½	79⅝	79¾	80¾	79¾	79¾
F	6	79½	79⅞	77⅞	78¼	79½	79⅞	77¾	78⅛	79¼	79⅞	78	78⅜	79¾	79⅞	78	78⅜
S	7	78⅜	78½	76⅛	77¾	78½	78½	76⅛	77¾	78⅜	78⅜	76	77¾	78	78¼	76	77⅝
M	9	78¼	78⅜	77¼	77⅞	78½	78½	77⅜	77¾	78¼	78¼	77⅜	77⅞	78¼	78½	77⅜	77⅞
T	10	78⅜	81⅝	78	80⅜	78½	81½	78⅛	80⅞	77½	81½	77½	81⅛	78¼	81½	78¼	81
W	11	81¼	81¼	79	79⅜	82	82	79	79½	80⅞	81⅞	79⅜	79⅜	80¾	80⅞	79¼	79½
T	12	79¾	79⅞	78½	78⅝	79⅞	80	78½	78½	80	80	78¾	78⅝	79⅞	80	78¾	78¾
F	13	78	78⅝	77	77¼	78	78¾	77	77¼	78⅛	78⅝	77	77⅜	78⅝	78⅝	77⅛	77¼
S	14	77⅝	77⅞	77	77½	77¼	78	77⅛	77½	77¼	78	77⅜	77⅜	77½	78⅛	77¼	77½
M	16	78	78⅞	77⅞	78¼	77½	78⅞	77½	78¼	77¾	78⅞	77¾	78½	78¼	78⅞	78⅛	78⅜
T	17	78⅛	79⅝	78⅛	79¼	78⅝	79⅜	78¼	79¼	78⅜	79⅝	78¼	79¼	78⅜	79⅝	78¼	79¼
W	18	79⅝	82¼	77¾	82¼	79¾	82¼	77¾	82¼	79¾	82⅛	78	82⅛	79¾	82⅛	78	82
T	19	83	83½	81⅜	82	82¾	83¼	81¼	81⅞	83	83⅛	81¾	81¾	82⅞	83¼	81¼	81¾
F	20	81⅞	81⅞	80⅜	80⅝	81½	81¾	80¼	80⅝	81⅝	81¾	80½	80¾	82	82	80⅜	80⅝
S	21	80⅝	81	80	80⅞	80¾	81	79⅞	80⅞	80¾	81	79⅞	81	80¾	81	80	80⅛
M	23	81⅜	82¼	80⅜	82¼	80⅞	82⅛	80⅜	82	81⅛	82¼	80¼	82¼	81	82⅛	80¼	82
T	24	82½	84	81⅝	83⅝	82½	84⅛	81⅝	83¾	82⅝	84	81⅝	83⅝	82½	83⅞	81⅞	83½
W	25	83½	83¾	82	82½	84	84⅛	82	82⅜	83½	83¾	82	82⅜	83½	83⅝	82	82¼
T	26	82½	83¾	81	82⅜	82¾	84	80¾	82⅜	82⅝	83⅞	81	82⅝	82⅜	83⅝	80⅞	82½
F	27	82⅝	82¾	80⅞	82⅝	82¾	82¾	80¾	82⅜	82¼	82¾	80¾	82⅜	82½	82¾	80⅞	82⅜
S	28	82⅜	82⅝	82	82¼	82½	82½	81⅞	82¼	82¼	82½	82	82¼	82⅛	82½	82	82⅛
M	30	82	82	81¼	81¼	81⅞	82	81¼	81¼	81⅞	82	81⅜	81⅜	82	82	81¼	81¼
T	31	80⅞	81⅜	80½	81¼	81⅛	81½	80½	81⅛	80⅞	81½	80⅝	81¼	81	81½	80⅞	81¼

STOCKS IN THE REGION END OF EACH MONTH FOR 15 YEARS.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
January	340,154	537,751	532,971	1,183,728	1,948,919	4,104,703	3,603,203	2,983,231
February	342,390	587,021	579,793	1,265,373	2,283,032	4,496,751	3,734,835	3,335,770
March	351,474	642,000	662,497	1,244,657	2,648,210	4,592,364	3,753,513	3,394,011
April	328,609	771,000	877,832	1,178,643	2,623,534	4,537,843	3,940,109	3,423,675
May	329,908	605,000	950,803	1,192,541	2,594,286	4,552,672	4,032,126	3,304,302
June	351,168	554,000	1,010,302	1,324,493	2,701,625	4,502,896	4,847,301	3,046,389
July	321,840	511,220	990,229	1,433,620	2,279,479	4,386,720	3,500,612	3,162,574
August	356,908	530,146	997,126	1,513,890	2,932,444	4,223,397	3,182,160	2,914,499
September	419,477	541,300	951,410	1,521,185	2,758,504	3,812,945	3,011,004	2,549,460
October	473,896	495,102	914,423	1,452,777	3,134,902	3,672,101	3,180,983	2,545,423
November	576,014	502,960	886,907	1,493,875	3,449,845	3,701,235	3,142,397	2,474,490
December	544,626	532,000	1,084,423	1,625,157	3,705,639	3,672,077	2,816,870	3,086,972

	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
January	3,342,090	5,259,289	8,984,341	17,989,168	25,788,071	34,952,645	35,834,930	36,693,112
February	3,361,650	5,734,155	9,405,240	18,971,376	26,329,098	34,514,919	36,047,915	36,316,806
March	4,218,518	6,234,842	9,834,457	20,048,772	27,255,326	35,594,680	36,206,626	36,067,905
April	4,640,852	6,638,691	11,001,304	20,771,342	27,969,884	35,500,859	38,152,546	
May	4,908,450	6,838,762	11,737,890	22,108,640	28,833,715	35,642,245	38,475,528	
June	4,983,145	7,104,347	12,720,220	23,192,207	29,402,854	35,985,935	38,665,848	
July	5,664,158	7,193,137	13,666,369	23,765,140	30,254,302	36,371,939	38,983,911	
August	4,653,525	7,278,023	14,383,551	24,645,792	31,229,863	36,102,856	39,086,004	
September	4,653,525	7,493,752	15 249,661	25,052,082	32,066,007	35,752,718	38,740,722	
October	4,296,769	7,692,990	15,678 127	25,224,534	32,891,916	35,617,037	38,123,746	
November	4,364,909	8,138,767	16,402,431	25,302,647	33,439,450	35,495,236	37,857,193	
December	4,506,492	8,552,256	17,145,104	25,761,051	34,335,144	35,715,565	36,872,892	

AMOUNT and VALUE EXPORTS PETROLEUM and PETROLEUM PRODUCTS FROM THE UNITED STATES, 1881-1885.

	1881.		1882.		1883.		1884.		1885.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
January	18,458,954	2,066,227	30,248,954	2,759,087	38,490,505	3,506,953	33,490,679	3,285,783	37.209,280	3,332,004
February	24,197,966	2,524,055	28.753,191	2,680,861	29,209,791	2,689,721	31,459,563	3,147,812	34,242,679	3,009,460
March	32,121,969	3,285,066	40,378,457	3,753,706	36,309,101	3,423,136	33,227,632	3,292,252		
April	28,008,421	2,752,729	47,273,230	4,186,955	34,614,996	3,172,492	33,261,885	3,292,426		
May	35,025,896	3,361,155	44,452,727	4,168,930	61,067,399	5,412,128	43,785,070	4,072,761		
June	61,966,601	5,553,268	54,066,294	4,669,564	47,923,069	4,305,086	52,910.587	4,758,243		
July	51,019,204	4,684,801	60,914,823	5,128,313	47,699,387	4,179,237	52,470,018	4,643,001		
August	66,280,465	5,962,949	44,011,074	3,599,440	49,580,807	4,229,292	40,498,120	4,113,850		
September	51,398,719	4,762,711	41,954,730	3,410,955	55,385,030	4,773,490	57,369,034	4,961,345		
October	54,244,846	5,062,724	45,400,263	4,004,179	48,326,250	4,233,210	60,234,667	5,168,653		
November	46,587,631	4,399,988	35,849,016	3,308,120	46,956,205	4,212,238	50,646,893	4,383,921		
December	45,250,872	4,140,430	30,201,639	2,952,914	37,574,408	3,625,056	49,132,009	4,335,372		
Total	514,561,544	48,556,103	503,501,128	44,623,024	532,736,948	47,762,039	538,486,157	49,455,419		

AVERAGE DAILY RUNS BY DISTRICTS, 1882—85.

	Bradford	Allegany	Cherry Grove	Cooper	Balltown	Wardwell	Baldridge	All Other Fields	Total for Entire Country.
January 1882	55,006	7,222	....	....	....	....	....	11,541	73,769
February	63,313	9,512	....	....	....	....	....	10,722	83,547
March	58,078	14,760	....	....	....	....	....	10,894	83,732
April	53,108	17,622	....	....	....	....	....	10,395	81,129
May	55,955	19.522	218	....	....	....	....	11,262	86,957
June	56,016	22,765	3,037	....	....	....	....	13.968	95,785
July	52,456	23,884	8,655	....	....	....	....	19,311	104,306
August	49,711	20,814	24,315	....	....	....	....	10,985	105,826
September	46,585	16,387	23,002	....	....	....	....	10,567	96,545
October	42,107	19,964	9,363	120	....	....	....	14,286	85,841
November	41,404	16.993	4,886	294	....	....	....	10,012	74,580
December	39,580	14,020	3,180	559	87	....	....	14,993	72,419
January 1883	36,847	14,106	3,313	1,632	334	....	....	8,893	65,125
February	38,481	13,154	2,954	1,475	332	....	....	8,812	65,208
March	37,754	12,619	2,706	1,737	368	....	....	9.220	64,404
April	38,810	13,742	2,604	3,802	840	....	....	9,409	69,207
May	39,039	13,793	2,207	3,829	952	....	....	9,625	69,445
June	38,614	13,499	2,215	4,199	1,961	....	....	9,955	70,443
July	36,489	12,381	1,891	3,467	1,944	....	....	9,456	65,628
August	37,165	12,743	1,935	3,166	3,078	....	....	10,790	68,877
September	35,894	12,358	1,612	3,200	3,723	....	....	9,423	66,210
October	35,654	12,757	1,312	3,314	4,298	....	....	10,314	67,649
November	34,516	12,332	1,090	3,251	3,807	....	....	10,285	65,281
December	32,650	11,752	1,061	2,876	3,766	....	....	10,725	62,830
January 1884	31,020	11,018	767	2,908	2,808	....	....	9,657	58,178
February	33,987	12,025	968	3,743	2,816	....	....	11,034	64,573
March	33,049	11,777	1,001	4,631	2,813	....	....	11,319	64,590
April	34,370	12,261	1,039	4,229	2,399	475	844	10,176	65,793
May	34,946	12,193	968	3,468	2,260	1,015	1,061	10,777	66,688
June	35,701	11,672	845	2,985	2,250	2,042	969	10,886	67,350
July	34,718	11,114	533	2,476	2,471	4,277	889	10,224	66,702
August	33,782	10,384	665	2,046	2,189	6,483	843	10.604	66,996
September	33,449	9,989	653	2,155	2,115	4,056	2,644	10,891	65,952
October	31,500	8,802	446	1,811	1,781	2,201	6,034	10,489	63,064
November	29,552	8,642	423	1,302	1,401	1,346	9,493	9,592	61,751
December	30,632	8,193	407	1,246	1,189	979	8,730	10,367	61,743
January 1885	27,254	7,442	360	1,214	810	977	6,199	9,034	53,290
February	27,480	7,696	327	987	910	663	7,349	9,564	54,976
March	26,833	7,342	373	867	954	605	7,239	9,885	54,098

THE TORPEDO CO. OF DELAWARE.

How few who take notice of the magnitude of the oil industry to-day realize the important part that torpedoes have played in the production of the mobile staple which ranks high in the list of exports from the United States.

Without explosives the work of producing oil in McKean county would have been a slow process, and a large portion of the 36,000,000 barrels of crude now slowly evaporating from a thousand iron tanks would be stored away in nature's reservoir beneath the rugged hills.

Wells in some sections, which would not flow when left to themselves and could not be pumped, easily gave up their yield of oil when quickened by the explosive compound.

Twenty years have rolled by since the magic word, torpedo, was first used in the great cities to induce the unwary capitalist to invest in the worthless stock of the numerous oil companies whose imaginary boundary lines, like a net-work, covered the numerous valleys through which flow the streams of Western Pennsylvania. Thousands of dollars have been expended in testing the validity of torpedo patents—now happily expired—but until the advent of The Torpedo Company of Delaware, in October, 1883, no effort was made to place the business in an intelligent light before the producer.

Any observant traveler over the B., N. Y. & P. R. R. between Kinzua village and Warren has noticed a group of white buildings in the narrow, wooded valley of Hemlock Run, about one-third of a mile north of Hemlock Station, which is six miles up the Allegheny river from Warren. The principal one of this group juts out from the rather abrupt hillside and bears a striking resemblance to a country grist mill. That cluster of buildings, nestling among the trees along that mountain stream, comprises the works of the above named company, the finest of the kind in the oil region.

The Torpedo Company, chartered by the DuPonts and other well-known capitalists under the laws of the State of Delaware, and doing business in Pennsylvania by certificate of incorporation, is the only chartered company of its kind in the oil country. The principal part of its stock is owned by the DuPonts, who are at the head of the great powder manufacturing interests of the United States and Canada, and the nitro-glycerine business of the oil country is but one of the branches of their business in the manufacture and sale of explosives in America.

A few days since, the writer visited the works of this company. They have erected substantial buildings at a cost of twelve thousand dollars, on two farms which they have secured, comprising an area of two hundred acres, and extending along the river for nearly one-half mile. At the station a large warehouse has been erected for sheltering the drums of acid which are unloaded direct from the cars when they are received from the chemical works.

These drums, cylindrical in form, are made of light boiler iron, and hold about 1,500 pounds each of acid. Two rims encircling the drums near the centre furnish a convenient means for rolling them about when they are to be loaded or unloaded. Each drum, upon its receipt at the warehouse, is carefully weighed and checked and the contents subjected to thorough tests, no guess work being allowed or tolerated.

The commodious boarding house and stables situated on a pleasant slope are well equipped and neat in all their appointments. The barn, two stories in height with a loft, has conveniences which would gladden the heart of a farmer in a rich agricultural district. It shelters fourteen well-fed horses, and the farm barn furnishes stable room for twenty more, including box stalls for sick horses. The boarding house, where the employes (factory men and drivers), live, affords that comfort which this company has always aimed to give their men, and no pains are spared to make it homelike.

The nitrating house, boiler house, ice house, magazines and other buildings are located about 1,200 feet from the boarding house. A lofty hill rises between the two groups, which would protect the boarding house, stables, etc., in case of any accident.

The nitric and sulphuric acids are mixed in the proper proportions before shipment from the chemical works. At the nitrating house the machinery is modern in design and was manufactured under the personal supervision of the late Lamont DuPont and Prof. Walter N. Hill, late of the United States Naval Torpedo Service and lecturer before the naval officers on the subject of explosives, and is the result of years of patient study and practical experiment which demonstrated it to be the only machine by which a proper nitration of the glycerine could be obtained. The capacity of these works is from 8,000 to 10,000 pounds of nitro-glycerine per day, and can be increased at pleasure. Everything is carefully constructed and without regard to expense.

The man in charge of the machinery is one of the late Prof. Hill's pupils and has had extensive

experience in the manufacture of explosives.

It would surprise the most fastidious housekeeper who wages a warfare on dirt could she view the spotless floor of this nitro-glycerine factory.

The cans in which the nitro-glycerine is transported are made in three sizes and hold respectively 13, 20 and 26 pounds.

The greatest possible care is taken by the management in the manufacture of the compound. The ingredients are separately brought to the proper temperature before being mixed. After mixing, the compound ts thoroughly cleansed and passes under the inspection of an employe whose duty it is to test it, and if by any mischance it does not stand the proper test it is not allowed to be removed from the room until it does.

The store houses and other buildings are built at distances from each other within lines known to the explosive trade as safety lines, in order that an explosion in any one building may not affect another.

As the competent foreman swung the massive door of the store house back on its hinges he pointed to a rusty horse shoe nailed above the portal and said: "Never drive the horse shoe from the door." Within this brick structure a large amount of "the ideal of portable force" was stored in snugly packed cans.

The Torpedo Company have twenty-one magazines located in different sections of the country. That of Spence & Dennis, agents for the company in the Bradford and Allegany fields, is heated by an improved process by which the temperature is kept at about 60° Farhrenheit during the cold season so that no loss of the gasses, which give an explosive its strength, will occur by the thawing out process as practiced at the wells, also materially lessening the risk to the producer and his property. All of their magazines are constructed with special reference to safety.

In the transportation of nitro-glycerine from Hemlock Run to the various magazines, wagons and boats constructed for the purpose are used. Inside of the wagon boxes are placed transportation boxes of large size divided up into compartments for each can. The compartments are padded with curled hair covered with leather, the bottom of each cell being covered with a cushion of hair and rubber, and the entire bottom of the box is a zinc tray. A lid is tightly fitted to the transportation box and fastened down so that the cans are kept in their places and have no chance to vibrate. A daily team report is made of the name of the driver, time of departure, number of pounds of nitro-glycerine in load and its destination. And the arrival at its destination is also reported. So careful is the attention given to detail that the illness of a horse on the route is noted.

Nitro-glycerine for the Butler and Macksburg fields is shipped in flat boats down the Allegheny and Ohio rivers. These boats, four feet in width and thirty feet in length, are built at the company's wharf at Hemlock Station and carry from 4,000 to 10,000 pounds. The explosive is packed in compartments, after which the boat is decked over, and two men guide one of these easy going crafts from Hemlock Run to Marietta. Adrift with the current of the river they float during the daylight hours and moor the boat to the bank at night. Once on the river they are undisturbed by village or city ordinances and are accorded an undisputed right of way. The company have prepared a map at considerable expense showing the location of the different oil fields and the routes which must be traveled around the towns in delivering nitro-glycerine to their magazines.

By a system of diagrams which they are now publishing they make plain the results of their scientific experiments showing the effect of nitro-glycerine on oil wells. They have employed draughtsmen to get up elaborate drawings which make plain the theory and practical workings of explosives in oil wells. Through the enterprise of this company comes the first effort in the oil region to bring about a clear understanding of the use of this powerful agent in the economy of oil production. The main office of the company is located at Warren, Pa.

Mr. J. H. Hand, the General Manager, is still a comparatively young man, but has had years of experience in handling explosives.

Mr. J. W. Crum is cashier of the company.

Spence & Dennis, of Bradford, are the enterprising representatives of the company for the Bradford and Allegany fields.

The company have agents in the different sections of the country and their torpedo business is done through them. Their agents and employes must be men of steady habits and gentlemanly characteristics. The company have invested a large amount of money in a plant throughout the oil country. They are careful and have the capital to carry on the business against all competition. They have been in the field now about two years and through their enterprise alone the price of torpedoes has been reduced from eighty to forty cents per pound, being the first benefit of the kind the producer has ever had.

MARCH PRODUCTION REPORT.

Reports from 6,075 Bradford wells, showed an average decrease of nine-tenths of a barrel to the well, during March.

Time.	No. Wells.	Gross Stocks.	Average per Well.
April 1, 1885	6,075	374,089	61.6
March 1, 1885	6,072	368,339	60.7
Difference	3	5,750	.9

The number of wells in the Bradford field connected with the pipe lines on the 1st of April is estimated at 13,380. Estimating the entire Bradford region on the basis of nine-tenths barrels decrease, the total decrease in stocks at wells during March, was 12,042 barrels, a daily average of 389 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for March is as follows:

	Barrels.
Average Daily Pipe Line Runs	26,833
Average Daily decrease of Stocks at Wells	389
Bradford's March production, est.	26,444
do Feb. do do	27,051
Average daily decrease	607

This represents an average decrease of 607 barrels a day as compared with the February estimate.

THE ALLEGANY FIELD.

The stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per Well.
April 1, 1885	1,138	51,900	45.60
March 1, 1885	1,138	51,834	45.55
Difference	0	66	.5

The wells from which reports were received show no material change in the amount of oil on hand in the tanks of the producers. The pipe line runs were 7,342 barrels a day. With stocks remaining at the same point on the 1st of March and 1st of April, the runs are taken as a fair estimate of Allegany's daily production during March.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells. Mar. 1.	No. Wells. April 1.	Average per Well. Mar. 1.	Average perWell April 1.
Clarendon & Tiona	126	127	51	48
Cherry Grove	22	22	116	89
Cooper District	142	142	82	94
Lower Country	110	117	129	128
Miscellaneous	134	136	131	121

Accepting the outside runs, which are partially made up of the Wardwell and Baldridge runs, as representing the production, an estimate on the yield of the field for March and February would be as follows:

Field.	March Barrels.	Feb. Barrels.
Allegany	7,342	7,196
Bradford	26,444	27,051
Outside runs	19,923	19,800
Total	53,709	54,047

The above figures show a decrease in the production of 338 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885. No production reports of the field were published during the first six months of 1883, and the pipe line runs of Bradford and Allegany, are considered sufficient in the absence of more reliable data:

	Bradford		Allegany		Outside Runs		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
Jan.	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
Feb.	32,378	38,481	11,607	13,154	18,561	13,573	62,546	65,208
Mar.	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	339,22	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
Aug.	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
Sept.	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
Oct.	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
Nov.	31,789	35,026	8,642	12,678	23,557	18,433	63,988	66,137
Dec.	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
Jan.	28,675	31,806	8,260	11,264	18,594	16140	55,529	59,240
Feb.	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,596
M'ch	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444

The Baldridge and Thorn Creek runs declined 110 barrels a day in March. During the same time Cherry Grove, Cooper and Balltown declined 30 and Wardwell 58 barrels a day.

The production of the Bradford field for March is 607 barrels a day less than in February, and 5,468 barrels behind the output for March last year. Allegany falls short of the March average of 1884 by 4,426 barrels, and the entire region shows a decrease of 9,735 barrels per diem from the figures furnished by the production report for March, one year ago.

OPPERMAN'S MAPS.

MR. OPPERMAN has just put on sale with us the balance of his well known *Pocket Maps* of the Middle Field, Allegany Field—only one Bradford Field Map, and one Wall Map of the Middle Field left. No more will be printed.

☞Parties needing any of the above should address quickly—THE PETROLEUM AGE,
Bradford, Pa.

JAMES C. BOYCE,
ATTORNEY-AT-LAW,
Solicitor of Patents and Attorney in Patent Causes.
ROOM NO. 3,
OVER OIL WELL SUPPLY COMPANY, LIMITED,
Corner Main and Webster Streets, BRADFORD, PA.

Buffalo, New York & Philadelphia R. R.

THE NEW SHORT LINE TO
Sunbury, Williamsport, Harrisburg, Philadelphia, Baltimore, Washington,
AND ALL POINTS SOUTH.

Leave Buffalo at 8:00 a. m. (except Sunday) and arriving at Olean at 10:54 a. m. Connects at Olean for Bradford.

Train leaves Buffalo at 2:40 p. m. (except Sunday) arriving at Olean 5:05 p. m. connecting at Olean for Bradford; at Port Allegany for Coudersport; at Emporium with P. & E. R. R. for St. Marys, Ridgway, Kane, Harrisburg, Philadelphia, Baltimore, Washington and the South.

Train leaves Buffalo at 5:30 p. m. (except Sunday) arrives at Olean at 8:10 p. m.

Train for Buffalo leaves Olean at 5:50 (except Sunday) and 10:44 a. m., (except Sunday) arriving at Buffalo at 8:40 a. m. and 1:10 p. m.

Afternoon train leaves Olean at 4:02 (except Sunday) arrives at Buffalo at 7:00 p. m.

SUNDAY TRAINS leave Buffalo at 4:30 p. m.; arrive at Olean 7:15 p. m.; leave Olean 7:15 a. m., arriving at Buffalo 10:00 a. m.

GEO. S. GATCHELL, Gen'l Superintendent. J. A. FELLOWS, Gen'l Pass. and Ticket Ag't.

NARROW GAUGE DIVISION, BRADFORD & OLEAN.

EASTWARD.				Ap'l 14, '85.	WESTWARD.			
Sun.	Exp.	Mail	Exp.	Eastern Time.	Exp.	Mail	Exp.	Sun.
A. M.	P. M.	P. M.	P. M.		A. M.	A. M.	P. M.	P. M.
. . .	. . .	6 57	12 06	Ar. Richburg Lv.	. . .	8 25	2 54	. . .
. . .	. . .	6 48	12 00	" . Bolivar . "	. . .	8 44	3 00	. . .
11 00	6 00	4 00	9 45	Ar. . Olean . "	8 00	11 00	4 00	3 30
9 15	4 15	2 15	8 00	Lv. Bradford Ar.	9 45	12 45	6 55	5 18
A. M.	P. M.	P. M.	A. M.		A. M.	P. M.	P. M.	P. M.

BETWEEN ELDRED AND BRADFORD.

Exp.	Exp.	Exp.	Eastern Time.	Exp.	Exp.	Exp.
P. M.	P. M.	A. M.		A. M.	A. M.	P, M.
5 25	3 00	9 00	Ar. . . . Eldred . . . Lv.	7 30	11 35	5 45
5 07	2 43	8 33	" . . Duke Centre . . "	7 50	11 53	6 05
4 10	1 45	7 45	" . . . . Tarport . . . "	8 40	12 50	7 01
4 05	1 40	7 40	Lv. . . . Bradford . . . Ar.	8 55	12 55	7 06
p. M.	P. M.	A. M.		A. M.	P. M.	P. M.

30 Miles Saved by the New BRADFORD SHORT LINE,

Between Olean, Bradford, Warren and the Lower Oil Fields. Two fast Express Trains each way, daily except Sunday.

CONDENSED SCHEDULE OF THROUGH TRAINS.

EASTWARD.			Sept. 21, 1884.	WESTWARD.		
Exp.	Acc.	Exp.	Eastern Time.	Acc.	Exp.	Exp.
P. M.	P. M.	A. M.		A. M.	A. M.	P. M.
8 00	3 25	11 35	Ar. . . . Bradford . . . Lv.	7 00	10 00	4 20
6 20	1 00	9 55	Lv. . . . Kinzua . . . Ar.	9 15	11 40	6 00
P. M.	P. M.	A. M.		A. M.	P. M.	P. M.
5 30	. . .	9 20	Lv. . . . Warren . . . Ar.	. . .	12 16	6 49
5 10	. . .	9 00	" . . . Irvineton . . . "	. . .	12 35	7 10
4 36	. . .	8 24	" . . . Tidioute . . . "	. . .	1 10	7 50
3 10	. . .	7 00	" . . . Oil City . . . "	. . .	2 30	9 20
8 45	. . .	8 45	Lv. . . . Pittsburgh . . . Ar.	. . .	7 50	7 50
A. M.	. . .	P. M.		. . .	P. M.	A. M.

J. A. FELLOWS, Gen. Pass. and Ticket Agent. Buffalo, N. Y.

ROCHESTER & PITTSBURGH R. R.

BUFFALO AND ROCHESTER DIVISION.

November 24, 1884—Eastern Time.

				STATIONS.				
p m	p. m,	p m	a. m.		a. m.	p m	a. m.	p. m.
. .	.	7 45	10 55	Ar . . . . Buffalo Lv	8 10	5 00	. .	. .
920	12 47	. .	. .	" . . . Rochester . . . "	. .	. .	6 45	6 20
	a. m.							
4 21	8 10	4 21	. .	" . . . Salamanca . . . "	11 27	. .	11 27	11 07
					p. m.		p. m.	
3 35	7 30	3 35	7 30	Lv . . . Bradford . . . Ar	12 15	8 30	12 15	. .
			p. m.					
. .	. .	. .	1 30	Ar . . . do . . . Lv	12 38	. .	. .	. .
. .	. .	. .	12 36	" . . Kinzua Bridge . . "	1 37	. .	. .	. .
			a. m.					
. .	. .	. .	10 48	" . . . Ridgway . . . "	3 25	. .	. .	. .
. .	. .	. .	9 08	" . . . . Dubois . . . . "	5 10	. .	. .	. .
. .	. .	. .	8 00	" . . . Clayville . . . "	6 20	. .	. .	. .

Thousand-Mile Tickets sold at Two Cents per mile.

Connections made at Salamanca with the N. Y., P. & O. R. R. for all points West and Southwest; also with the Erie R. R. for all Eastern points; at Bradford with the Narrow Gauge system to all points in the Oil Regions.

JAS. T. GARDNER, Sup't. I. S. EMERY, Gen. Pass. Ag't.

Warren and Farnsworth Valley Railroad.

Narrow Gauge Railroad to Garfield, Vandergrift and Dunham's Mills.

	a. m.	p.m.		a. m.	p. m.
Clarendon Lv.	10 35	5 10	Garfield Lv.	7 20	3 15
Garfield Ar.	11 35	6 10	Clarendon Ar.	8 20	4 15

Trains are run on P. & E. R. R. Time. Passengers can leave Oil City and Titusville for Garfield by morning train, remain three and one-half hours in Garfield, and return same evening.

A. D. WOOD, Gen. Manager.

THE ERIE NARROW GAUGE SYSTEM.

BRADFORD, BORDELL AND KINZUA
—AND—
BRADFORD, ELDRED AND CUBA RAILROADS.

In Effect April 9, 1885.

WESTWARD.			STATIONS.	EASTWARD.		
6 00pm	1 05pm	9 15am	Ar . Bradford . Lv	7 45am	2 40pm	4 30pm
5 15	12.20	8 30	Lv Kinzua Junct "	8 30	3 25	5 15
5 05	11 55	8 20	" . . Aiken . . "	8 43	. . . .	5 28
4 51	11 35	8 06	" . Simpson . "	9 59	. . . .	5 44
4 10	10 35	7 25	" . Smethport . Ar.	9 40	. . . .	6 25
5 06	12 11	8 21	" . Rew City . Lv	8 39	3 34	5 24
4 44	11 49	7 59	" . Rixford . "	9 01	3 56	5 46
4 39	11 44	7 55	" Duke Centre "	9 06	4 01	5 51
4 20	11 25	7 35	" . . Eldred . . "	9 25	4 20	6 10
4 03	11 08	7 18	" Bullis Mills "	9 42	4 37	6 27
3 46	10 51	7 01	" . . Ceres . . "	9 59	4 54	6 44
3 30	10 35	6 45	" LittleGenesee "	10 15	5 10	7 00
3 20	10 25	6 35am	" . Bolivar . "	10 25	5 20	7 10pm
2 55	10 00	. . . .	" . Allentown . "	10 50	5 45	. . . .
9 26pm	9 25am	. . . .	Ar . Wellsville Ar.	11 25am	6 20pm	. . . .
			N. Y., L. E. & W.			
12 35pm	8 10am	. . . .	Ar Hornellsville Lv	2 05pm	7 25pm	. . . .
10 12	6 26	. . . .	" . Corning . "	3 53	9 30	. . . .
9 26	5 48	. . . .	" . . Elmira . . "	4 40	10 05	. . . .
7 00	3 53	. . . .	" Binghamton "	7 40pm	11 58	. . . .
8 15pm	8 00pm	. . . .	Ar . New York . Lv	. . . .	7 10pm	. . . .

Accomodation train leaves Bradford (Erie crossing) daily, except Sunday, at 10 10 a m, arriving at Smethport at 2 05 p m, Bolivar at 2 55 p m, and Wellsville at 4 52 p m.

Accomodation train leaves Wellsville daily, except Sunday, at 9 45 a m, arriving at Bolivar at 11 20 a m, Eldred at 12 45 p m and Bradford (Erie crossing) at 3 15 p m.

Additional train leaves Bolivar daily, except Sundays, at 8 00 a m, arriving at Allentown at 8 25 a m, and Wellsville at 9 00 a m, connecting with Erie train 8 for the East. Returning, leaves Wellsville at 6 35 p m, arriving at Allentown at 7 10 p m and Bolivar at 7 35 p m.

SUNDAY TRAINS leave Wellsville at 7 30 a m, arriving at Allentown at 8 05 a m, Bolivar 8 01 a m, Eldred 9 30, Duke Centre 9 49, Rixford 9 54 and Rew City 10 16 a m; leaves Smethport at 9 20 a m, Aiiken 10 15, arriving at Bradford at 11 10 a m. Returning, leaves Bradford at 2 50 p m, arriving at Aiken at 3 43, Smethport at 4 40, Rew City 3 44, Rixford 4 06, Duke Centre 4 11, Eldred 4 47, Bolivar 5 30, Allentown 5 55 and Wellsville at 6 30 p m.

JNO. C. McKENNA, Superintendent.

WHEELING & LAKE ERIE

AND CLEVELAND & MARIETTA R. R'S.

[N. Y., P. & O. R. R. connections for the Macksburg Field.]

EASTWARD.			IN EFFECT MAY 18, 1884.	WESTWARD.		
No. 1	No 5.	No. 7.	Central Standard Time.	No. 8.	No. 6.	No. 38
A. M.	P. M.	P. M.	STATIONS.	P. M.	A. M.	P. M.
7 20	3 20	6 20	Lv. . . . Toledo . . . Ar.	11 30	10 00	2 40
11 34	7 40	1 40	" . . . Creston . . . "	7 40	1 20	10 30
4 55	8 02	4 55	" . . New Comerstou . . "	4 00	10 15	
7 48	11 00	7 48	" . . . Macksburg . . . "	12 55	7 15	4 4
9 05	12 20	9 05	Ar. . . . Marietta . . . "	11 40	6 00	3 2
P. M.	P. M.	P. M.		A. M.	A. M.	P. M.

CONNECTIONS—Toledo with all lines entering the city. Fremont, L. E. & W. R. R.; Clyde, I., B. & W. R. R.; Bellevue, N. Y. C. & St. L. R. R.; Monroeville, B. & O. R. R.; Wellington, C. C. C. & I. R. R.; Creston, N. Y., P. & O. R. R.; Orrville, C. A. & C. R. R., P. C. & T., and P., F. W. & C. R. R.; Massillon P., F. W. & C. R., and C., L. & W. R. R.; Valley Junction, Valley R. R.; Canal Dover, C. & P. R. R., rnd C. L. & W. R. R; New Comerstown, P., C. & St. L. R. R; Cambridge, B. & O. R. R.; Point Pleasant, C. W. & N. Y. R. R.; Marietta, C. W. & B. R. R.

M. D. WOODFORD, General Manager. JAMES M. HALL, Gen'l Pass. Agent

ADVERTISERS
Can learn the exact cost of any proposed line of Advertising in American Papers by addressing Geo. P. Rowell & Co's Newspaper Adv'g Bureau, 10 Spruce St., N. Y.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., MAY, 1885. No. 4

SPECULATIVE HALLS—THE OIL CITY OIL EXCHANGE.

A history of the Oil City Exchange is a history of the oil speculation of the world. Although not the first exchange ever built for the exclusive use of the men who buy and sell crude petroleum, and at the present time not the largest in the group of four, in which the bulk of the oil certificates is constantly transferred from one owner to another, it has been more closely identified with the oil business for a longer term of years and exerted a larger influence on values than any of the other exchanges. For many years it has ranked as the first of the oil exchanges of the country, and the price of the crude product decided by the loud vociferations of the brokers about its nickel-plated ring has been recognized as the standard of value in all sections of the globe. Somewhat overshadowed at the present time by its more powerful rival in New York, its corridors are still frequented by men, comparatively young in years, but old in reminiscences of life along "the creek," and of the by-gone days, when an oil certificate and a pipe-line were among the unguessed probabilities of a mighty future.

Oil City dates its inception to 1860, soon after the striking of the Drake well. The town increased rapidly, with the growth of the oil business, and in 1865 had a population of eight or ten thousand. Situated at the junction of Oil Creek with the Allegheny River, it had long formed a sort of rendezvous for the hordes of lumbermen who annually floated their rafts of lumber down the natural lines of commerce to Pittsburgh. A few scattered houses of public resort in what is now the west side of the Third Ward formed the nucleus of the town. The rich petroleum deposits that were developed along the Oil Creek Valley brought the place into prominence, and made it the headquarters for the buyers of crude at the wells. The site upon which the city is now located was formerly owned by the Michigan Rock Oil Co. on the west side, and Graff, Hasson & Co. on the east side. In 1863, William L. Lay & Co. became the owners of the south side, and founded a new town which subsequently became known as Venango City. This place in 1866 had a population of 1,500 and became an integral portion of Oil City, by act of Legislature in 1871.

The oil brokerage business was started about the year 1868 by the parties who purchased oil for the Pittsburgh, Philadelphia and Baltimore refineries. These brokers generally received a commission of ten cents per barrel from the buyers and, in some instances, increased their receipts by five cents a barrel from the sellers. Soon regular brokerage boards were formed at Titusville, Oil City and other points where crude oil was bought and sold, and these led to the establishment of exchanges, which regulated rates of brokerage and laid down rules for the conduct and management of the growing business.

In 1865, Oil City had become the most important shipping point in the region, and numerous brokers and shippers had established their offices here. No prescribed place for transacting business had yet been thought necessary. Trades were made anywhere, in the offices along Main street, at the wells, or any convenient point that offered itself.

Sometimes a shipper, upon receiving intelligence of any important occurrence in New York, would mount a horse and start up the creek, buying all the oil he could. He might be followed a while later by some one willing to pay twenty-five cents more on a barrel than he, and the second might be followed by a third willing to pay a still higher figure. Or the condition of things might be reversed and the brokers compelled to sell at a lower rate than the purchase

price. Fluctuations were wide, the market price raising or falling a dollar a barrel in a single day.

In 1867, the Farmers Railroad was completed between Oil City and Titusville. The oil producers now got in the habit of coming to Oil City in the morning, remaining through the day and returning home in the evening. The road was a very rough one, and numerous stoppages at small stations made the trip from Oil City to Titusville consume about three hours. After a time a car was put on the road especially devoted to oil men In this they bought and sold oil in very much the same manner as they do at present, except that there were no certificates. The transactions were principally in "spot," "regular" and "future" oil. "Spot oil" was to be moved and paid for at once; "regular" allowed the buyer ten days' time to put the oil on the cars and pay for it; "futures," of course, were regulated to suit the convenience of either party. With the exception of future oil, there were no written contracts in any of these transactions. Large lots frequently changed hands in the passenger car, which thus became really the first oil exchange in the region. No officers or governing rules regulated the conduct of the business at this time, and but few disputes of any moment occurred. The word of an oil man was considered as good as his bond, and a broker had but to name his principals and often was his only witness to a bargain and sale involving thoussands of dollars. All the oil was shipped either on the cars or down the river in barges.

FLUCTUATION OF VALUES.

The price of the crude product has been most capricious, shifting all the way down the scale from $20 to 10 cents per barrel. This uncertainty of values has made petroleum one of the favorite speculative commodities of the age. From the time the first well was struck in August, 1879, until the close of that year the average price per barrel was $20. The price in 1860 was $9.60, and in 1861 the production was so much in excess of the demand for consumption that the average price for the year was only 49 cents per barrel of forty-two gallons each, and during October, November and December the best price obtainable was 10 cents. Petroleum was gradually introduced into foreign countries, and as its great value as an illuminant came to be known the demand increased and the price advanced accordingly until during 1864 the average price per barrel was $7.62. This stimulated operations in producing circles to such an extent that the daily production was increased to 30,000 barrels in 1874, and during that year the average price was $1.30. Since that time both the supply and demand have increased. The total production in 1877 was in round numbers 13,500,000, or a daily average of 37,000 barrels. The average price for the year was $2,85 at the wells. The first export was in 1861 of 27,000 barrels, valued at $1,000,000, and the export of petroleum amounted in 1877 in round numbers to $62,000,000. The amount exported in later years has exceeded the exports of 1877, but the valuation has never reached the figures of that year. Exports now exceed 500,000,000 gallons per annum, at an annual valuation of $45,000,000 to $50,000,000. Since 1877 the price of crude has occupied a much lower plane, moving upwards no higher than $1.87½ and downward as low as 49¼ cents per barrel.

THE ORGANIZATION OF THE EXCHANGE.

The disadvantages of an oil exchange on wheels, were at once recognized, and in December 1869, steps were taken to effect a permanent organization. The first officers were elected in Owston & Lower's office on Main street, and a part of a building on Centre street rented for an assembly room. Finding this room too small, the exchange was removed in the summer of 1871 to the Sands block, where a place was prepared and occupied until January 1872, when it was destroyed by fire. The next removal was to the Opera House block, and subsequently temporary quarters were taken in a cheaply built structure adjoining the Empire Transportation Company's office. Here it remained until the following year when the organization was dissolved in consequence of complications with the South Improvement Company. From this time until February 1874 what business was done, was transacted on the streets, at the hotels and offices.

The first record of a permanent Oil Exchange is found in the Secretarys book, under date of February 7th 1874, and reads as follows:

"A meeting of parties interested in the organition of an Oil Exchange was called to order in the Collins block, with Wm. Hasson in the chair, and J. F. Leech, Secretary, pro tem, who read a list of fifty-five names of parties willing to become members of said organization. A. J. Greenfield, after stating the object of the meeting moved: That the rules and regulations of the former Oil City Oil Exchange be adopted as the basis of this organization, subject to any amendments found necessary. Carried. Motion to elect officers by ballot, carried. The election of officers resulted as follows: George V. For-

man, President; A. J. Greenfield, Vice President; J. F. Leech, Secretary; James Mawhinney, Treasurer; Room Committee; Henry Fisher, James Mawhinney, P. H. Judd, Finance Committee; John Parker, Joseph Bates, C. F. Thum. A motion to elect a committee of three on rules and regulations was carried and the following named gentlemen were elected: W. L. Lay, J. J. Vandergrift, J. F. Leech. On motion the room committee was ordered to report on the matter of rooms and furniture of same at next meeting. Adjourned to meet Feb. 16th at 2 p. m. J. F. LEECH, Secretary.

The new organization started in rooms in the Collins House block. At first there was a great lack of discipline and order. The rules were not stringent and business commenced in the morning as soon as two or more members had put in an appearance and continued until eight, nine or ten o'clock in the evening. Gradually a better system began to be adopted, and soon rules and regulations were enforced that brought about the system which is now in vogue.

The Collins House block continued to be the headquarters of the Oil City Exchange until 1878, when it removed to the substantial building it now occupies. Those four years in the hotel building were as eventful as any that have since succeeded. During this period the exchange flourished and became a power in the land. The New York Graphic said in 1877, that the trade of the Oil City Oil Exchange ranks third in extent of business in the United States, New York and San Francisco only being ahead.

THE NEW EXCHANGE.

In June 1877 the building of a structure commusurate with the magnitude and importance of the exchange was begun. The formal opening occurred on the 23d of April 1878. The officers of the exchange at this time were: A. J. Greenfield, President; J. T. Jones, Vice President; C. P. Stevenson, Secretary; John Mawhinney, Treasurer; A. J. Greenfield, William Hasson, M. K. Bettis, C. H. Duncan, William Parker, J. T. Jones, Joseph Seep, J. T. Gibson, John Mawhinney, J. J. Vandergrift, E. C. Bradley, Daniel Goettel, Peter Schreiber, Directors.

The cost of the new building exclusive of the furnishing was $65,000. Mr. J. M. Budge, of Meadville, was the Architect, and the building committee consisted of William Hasson, A. J. Greenfield, William Parker and John Mawhinney. The following description of the building is from the Derrick of April 24th 1878: The structure was originally 60x100 feet in dimensions, but in 1884 an annex 35 feet in width was erected on the south side of the building, which now covers an area of 95x100 feet.

DESCRIPTION OF THE BUILDING.

'The exchange is situated upon the most eligible business site in the city, facing on three main streets Centre, Seneca and Sycamore and within easy communication with the banks post-office and depots. Its present dimensions are 95 by 100 feet and three stories high with basement. The exterior is imposing and substantial in appearance without being pretentions and of the modern style of architecture unadorned with "ginger bread work." The material used is pressed brick with Amherst stone trimmings and galvanized iron cornices surmounted by ornate pediments one over each of the three faces of the building with the inscription Oill City Oil Exchange in relief. A flag staff tops the pedement over the main entrance. Iron stairways lead to the several entrances of the building, the one on Seneca street being flanked by two lamp posts capped by handsome gas lamps. A neat iron railing surrounds the area. The building is well supplied with windows, those of the first story being of large dimensions fitted with plate glass. The massive doors are of hard wood finely finished and fitted with bronze locks as is each door in the building.

THE OIL EXCHANGE ROOM.

This apartment communicates by three entrances with the street. The ground entrance is from the main front on Seneca street leading first into a vestibule and thence into a corridor through three archways into the exchange room. In the center of the corridor stands an aquarium surrounded by a nickle plated rail furnished by Tiffany & Co., of New York. The fountain is of bronze finish of handsome modern design and with its cool plashing waters and luxuriant plants proves a grateful addition in the sweltering days of summer. The exchange room is an elaborately finished apartment, admirably lighted in the day time by three large skylights in the roof and at night by two elaborate bronze chandliers, each with 24 lights, and bracket lights on the wall. The floor of walnut and ash measures forty by sixty feet and the height to the underside of the truss of the curved ceiling is thirty feet. On a line with the second story is a gallery for the accommodation of speculators supplied with neat iron stools, and communicating with the corridor are glass reversible doors. The next strking feature of the

room is the raised platform on the west side sacred to the use of the President and Secretary, which is a most artistic piece of furniture composed of walnut and ash finely designed and richly finished. On either end of the balustrade inclosing the platform is a bronze figure in medieval costume holding aloft a gas lamp. Three bulletin boards are displayed on the south side of the room designed for eastern and foreign quotations etc. Around the sides of the room are writing desks and settees corresponding in material and design with those of the presiding officer. Glass reversible doors communicate with the various entrances. The bull ring whereon the noisy brokers hang and barter is a shining ornament. It is an elliptical enclosure solidly constructed of massive bars nickle plated and was manufactured by Tiffany & Co., of New York. The frescoing of the exchange room is elaborate and the designs highly artistic.

THE FIRST FLOOR.

Contains besides the exchange room several apartments. The one situated on the north east corner thirty-seven by thirty-eight feet is occupied by the Western Union Telegraph office. A room of similar size on the corner of Sycamore and Seneca streets is the office of the Bankers and Merchants Telegraph Co. On the western side of the Centre street entrance, the Postal Telegraph Co., have headquarters in a room measuring seventeen and one-half by nineteen feet. These offices have receiving windows in the exchange room and are peculiarly adapted for the telegraphic service. The immense telegraphic business done in this city necessitates a large force of operators and all the available space has consequently been ingeniously utilized. The appointments are first class in every respect. Entrances from the street and interior are provided. The additional room added by the annex which was opened February 20th 1884 affords a smoking room at the north west end and a reading room at the south west end. The intervening space between these rooms is occupied by "the Lamps Fold," the closets and washrooms which are supplied with every necessary convenience. The ceilings of these rooms are 15 feet and two inches high.

THE SECOND FLOOR,

Reached by winding stairways, finished in mahogany, walnut and oak, contains the gallery walk of the exchange room and suites of offices elegantly furnished and fitted up with all modern conveniences, including marble-topped washstands and speaking tubes in each room communicating with the exchange and telegraph offices. The ceilings are twelve feet high. Each apartment is admirably lighted and ventilated. The rooms are occupied as follows:

No. 1. D. Fisher, I. H. Webb.
2. T. A. McLaughlin.
3. W. H. Dufur.
4. Thomas A Kane.
5. M. Lowentritt, A. Kline.
6. H. Lewis & Co., now Joseph Seep.
7. H. Lewis & Co.
8. H. L. Foster.

ANNEX.

19. G. Darr, Hilton & Waugh Co., limited.
20. Amos Steffee and Charles Hall.
21. Office.

Directors' Room.

THE THIRD FLOOR

Is fitted up and furnished in a similar manner, with the same number of offices, which are occupied as follows:

No. 9. H. Howe, Greenfield & Barr.
10. I. M. Sowers, R. J. Moorhead.
11. J. Wolcott, J. J. Hendricks.
12. B. F. Kraffert.
13. I. Reinaman.
14. Office.
15. J. Goettel, E. V. Selden.
16. Clark & Foster.

ANNEX.

Clearing House.
Reno Oil Co.
24. C. J. Fraser, A. Fraser.

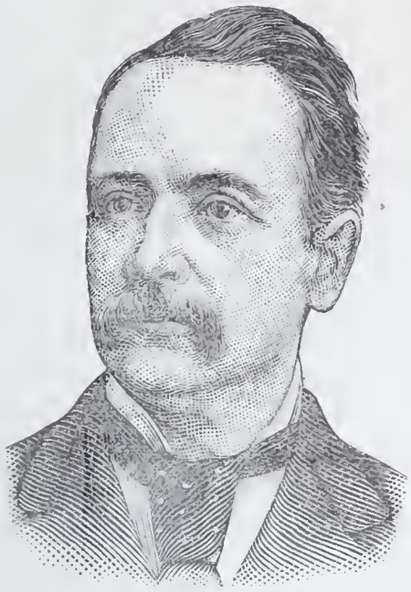
THE BASEMENT

Is surrounded by an area way communicating by steps with the street, and under the pavement are the coal vaults. The various apartments are remarkably light and airy and easy of access. A large boiler furnishes steam heat to the building.

Every office is supplied with a marble-topped washstand and bronze radiators of handsome design scattered profusely throughout the building furnish the necessary heat.

Great care has been taken in the new building to thoroughly ventilate it by the most approved methods of modern science. In the sub-basement are cold air ducts running out into the areas, and these are connected with four upright shafts of large dimensions, extending above the roof and terminating in four patent iron ventilators. Ordinary registers let into the shaft communicate with the interior of the building—a constant current of air passes through these shafts, drawing off the foul vapor and supplying its place with cool, fresh air.

THE PRESIDENT OF THE EXCHANGE.



H. L. FOSTER.

A description of the Oil City Exchange would be incomplete without a sketch of Mr. H. L. Foster, the president. Mr. Foster has held the office since 1879, and was elected for the sixth time, at the beginning of the present year without any opposition. The accompanying likeness was prepared by the Oil City Blizzard from a photograph. Mr. Foster came to Oil City from Philadelphia, about ten years ago and soon became one of the leading men of the exchange. He has been largely instrumental in constructing the rules and regulations governing the exchange, and in bringing the speculative oil trade out of the chaotic state it occupied in the early days, and in putting it on a systematic business basis. Mr. Foster is about fifty years of age. He is exceedingly liberal with the fortune he has won by his shrewd, active and sagacious business qualifications. He is always ready to promote the business interest of the city of his adoption, and no one does more in a quiet and unostentations way for any worthy object of charity. "He is one of the vestrymen of Christ church, prominent in all its affairs, and a little house of worship in the vicinity of the city, was constructed almost wholly with money furnished by him. As an extemporaneous speaker he has few superiors. Quick and apt, with a fund of knowledge and information at his command, he is always ready to make a good and telling speech on almost any subject. Dignified and stately, yet always in good humor and as ready as any of the boys for a frolic, he is popular among the oil men and all others who know him."

THE CLEARING HOUSE.

The Oil City Exchange was the first to apply the principles of the Clearing House system to the speculative petroleum business. The plan was adopted towards the close of 1882, and its excellent practical results soon commended it to the other exchanges. There were many difficulties at first to be overcome, but they have all been surmounted in turn, and now the smooth working of the system is apparent to all. The Clearing House of the exchange is under the efficient surveillance of Mr. John Reed manager assisted by Sam. McGuff. The clearances since January 1883 have been as follows:

	1883. Barrels.	1884. Barrels	1885. Barrels.
January	79,446,000	247,250,000	99,202,000
February	60,894,000	213,322,000	96,984,000
March	107,273,000	221,133,000	153,806,000
April	74,074,000	269,054,000	86,264,000
May	113,626,000	236,627,000	
June	254,121,000	128,974,000	
July	229,248,000	161,452,000	
August	200,068,000	215,993,000	
September	222,800,000	207,656,000	
October	187,597,000	189,462,000	
November	231,848,000	89,176,000	
December	188,216,000	151,418,000	
Total	1,949,214,000	2,331,218,000	

MEMBERS AND SHARES OF STOCK.

Following is the official list of membership as shown by the records April 11, 1885. A membership consists of three shares of stocks. As an indication of the healthful tone of the exchange, it will be noticed that only two out of the entire list hold more than one membership.

Name.	No. Shares.
ArmorR R	3
Allen T A	3
Adams James	3
Ash Isaac	3
Adams Axel S	3
Arnold H N	3
Ancker Ed	3
Allen N W	3
Anderson D C	3
Bonham J M	3
Boyd H P	3
Bett s F M	3
Bettis M K	3
Barr John	3
Bolard D	3
Beers H I	3
Brough Wm	3
Buchanan J C	3
Boulton D H	3
Brown N H	3
Barlow Eli	3
Barlow G H	3
Best L H	3
Butler J E	3
Barr W R	3
Braunschweiger M Sr	3
Blackmarr F R	3
Bredin J P	3
Bredin H M	3
Brownson M	3
Brundred B F	3
Bigler W J	3
Baughman R C	3
Bristol J D	3
Beatty E C	3
Blackwell T M	3
Cowell T R	3
Connor John	3
Connor J H	3
Colbert R	3
Chambers W	3
Cornwall George	3
Cornwall G H	3
Clapp E E	3
Clapp Jno M	3
Cooper C A	3
Cooper J M	3
Culbertson A	3
Collins R G	3
Collins J V	3
Clark N F	3
Crane J G	3
Chickering K	3
Copenhaver W K	3
Cotton A D	3
Choate W H	3
Campbell J R	3
Cappeau J P	3
Cullis E S	3

Name.	No. Shares.
Lowrie J A	3
Lowrie A L	3
Lockhard L B	3
Levine Isaac	3
Lane W H	3
Mawhinney Jas	3
Mitchell F W	3
Mitchell J L	3
Moorhead R J	3
Moorhead G H	3
Manning Jos	3
Mount M M	3
Moore G N	3
Melville J. B	3
Maxwell S L	3
Mayer L	3
Milton Leo	3
Martin M R	3
Marston H S	3
Miles A G	3
Morgan W M	3
McDonald J E	3
McMullen W S	3
McCray W A	3
McNair Wm	3
McClintock C W	3
McCracken Ed	3
McCracken B F	3
McCance H L	3
McCance A E	3
McLaughlin T A	3
McLaughlin L F	3
McLaughlin J J	3
McCarter J E	3
McCammon W H	3
McCoy D C	6
McKisson J C	3
McCarty J M	3
McNally M	3
McCoy John D	3
Nicholson W H	3
Nicholson Thomas	3
Nicholson Geo	3
Nicholson W A	3
Nicholas W W	3
Naly W S	3
Nelson C H	3
O'Day Daniel	3
O'Connell J	3
Owen Richard	3
Paker G W	3
Parker John	3
Parker Wm	3
Parker R P	3
*Porteous T B	3
Plumer A A	3
Plumer G W	3
Price L M	3
Payne N H	3

Cunningham S 3
Craig S 3
Duggan J J 3
Desh A H 3
Duncan C H 3
Duncan W C 3
Drum Jno R 3
Dufur W H 3
Dufur C L 3
Davis Jno W 3
Davis Adams 3
Drake S B 3
Dick S T 3
Darr G W 3
Daniels J B 3
Downes J J 3
Eastman H A 3
Eastman A R 3
Fraser C J 3
Fraser A 3
Foster H L 12
Foster F B 3
Foster G E 3
Foster J M 3
Fisher J C 3
Fisher D 3
Fuller R A 3
Fink J M 3
Goettel D 3
Goettel J 3
Greenfield A J 3
Gibson I S 3
Grove W A 3
Grow G N 3
Gates A C 3
Gates W H 3
Geary M 3
Hopewell J H 3
Hefferman J 3
Heard Geo 3
Hayes W M N 3
Hukill G P 3
Howe Harry 3
Hilton N F 3
Haines Chas 3
Henderson B H 3
Henderson J M 3
Hulings W J 3
Harley G R 3
Hasson Wm 3
Haywood R 3
Hendricks J J 3
Humason G H 3
Hampton W Jr 3
Honeywell T M 3
Hall C T 3
Hammond L 3
Horton D P 3
Hurley Jerry 3
Hawley Clarke 3
Innis Warren O 3
Justus S 3
Jones J T 3
Judd P H 3
Judd W E 3
Johnson J T 3
Johnson J L 3
Kern J P 3
Kelly Amos 3
Kline A 3
Kraffert B F 3
Kane Thos 3
Keating M Jr 3
Kirschner M J 3
Lamberton L T 3
Lamberton S H 3
Lamberton John 3
Leckey Wm H 3
Longwell W H 3
Leech R T 3
Lowentritt M 3
Lowentrirt B 3
Lewis H 3
Lewis Geo 3
Lang J W 3
Laughlin D 3
Laughlin J S 3
Laughlin C J 3
Laughner P O 3
Lowrie W C 3
Payne J H 3
Potts J K 3
Potts P S 3
Powers J A 3
Phillips J N 3
Phillips S W 3
Playford R W Jr 3
Porterfield W H 3
Penn J R 3
Parshall E W 3
Pearson W R 3
Palmer J S 3
Reinaman Isaac 3
Rogers R A 3
Roesss L 3
Roess Chris 3
Ralston D A 3
Reinbold J B 3
Robinson J B 3
Roe Livingston 3
Ramage S Y 3
Rider W D 3
Russell W J 3
Richardson D 3
Reisenman J 3
Reed J M 3
Reynolds J C 3
Reynolds W E 3
Ready D 3
Simpson H S 3
Simpson T B 3
Smithman J B 3
Sowers I M 3
Sowers R B 3
Seep Jos 3
Schreiber P 3
Steele F H 3
Steele R W 3
Simmons M S 3
Simmons Con 3
Scheide W T 3
Siverly Walter 3
Suhr Henry 3
Stevens W H 3
Selden C C 3
Selden E V 3
Schopperle V 3
Strong O H 3
Smith J M 3
Sherratt J C 3
Shanefelter J J 3
Steffee Amos 3
Swetland E R 3
Sloan L H 3
Sweet Henry 3
Stone C W 3
Scott W R 3
Stewart D B 3
Stuart C E 3
Sutherin Jas 3
Sweeney H C 3
Sweeney John 3
Trax D L 3
Thomas J M 3
Thompson William 3
Tedcastle C B 3
Tucker J T 3
Tracy G B 3
Thompson J E 3
Van Vleck G H 3
Vandergrift J J 3
Welch W J 3
Wilson W A 3
Wilson J O R 3
Watters W J 3
Wise W H 3
White A McLain 3
White Geo H 3
Wright A J 3
Wright G V 3
Wright G W 3
Wolcott Jos 3
Whitfield M 3
Wolf J 3
Wirster C 3
Wiley J A 3
Webb I H 3
Young W J 3
Yothers M C 3

*Deceased.

NOTES ON NATURAL GAS.

LYONS' RUN.

The Lyons Run gas field is situated in Franklin township, Westmoreland county, a few miles from the Murraysville field. At present there are eight prolific gas wells in this locality, from which four lines of pipe conduct the volatile fluid to Pittsburg, McKeesport, Braddock and Homestead.

The first well drilled was put down on the Cooper farm by O. M. and M. R. Haymaker & Co. It proved a gusher and its product was piped to Pew and Emerson's Murraysville line, and thence to Pittsburg. It is now the property of the Fuel Gas Co.

When it was demonstrated that gas was to be found in paying quantities in the Lyons Run region, other companies quickly appeared. Bolton & Doubleday, or the Acme Gas Co., purchased an acre of ground from Cooper, located within about fifteen rods of the gusher. They immediately began preparations for drilling a well, and started to lay a pipe-line to Braddock and Homestead. They met with a number of reverses. Almost simultaneously with the tapping of the gas they encountered a heavy vein of salt water, which practically destroyed the use of the gas for fuel. They apparently abandoned the well and had the rig cut down. Another site was purchased on the Cooper farm and the drill started. Before going far, however, they concluded to recase the first well. A forty-foot rig was erected. When they had 800 feet of casing strung the cable broke and it all dropped to the bottom of the well and telescoped. After several vain attempts to get it out, the services of "The Great American Tool Fishing Co." were secured, and the hole finally cleared of the casing. The second attempt to case off the salt water was successful. A receiver was erected at the well to further purify the gas. Their line was laid with "locked" pipe and a test was made after about one mile of pipe had been put down. The pipe burst. The line was completed and a final test made, when it again burst near the well with terrific force and several persons narrowly escaped death. The line was condemned and a regular screw pipe-line laid. They completed their second venture on the Cooper farm. It proved a great producer, but had to be cased to the bottom on account of salt water. These two wells supply all the gas that is furnished by the Acme Gas Co. at Braddock and Homestead. While drilling was in progress on the second well another site was purchased from Morrow, on an adjoining farm. A well was drilled to the top of the gas rock and operations suspended, as they have all the gas they can utilize at present.

While the Acme Co. was drilling their first well, Pew, Emerson & Co., limited, began grading for a rig on the Heckman farm, just across the road. Timbers were laid for the foundation and lumber on the ground for the derrick. The salt water encountered by the Acme Co. rather chilled the ardor of Pew & Emerson and work

at their well dragged. Subsequently, litigation was inaugurated concerning the validity of their lease. The proposed well was then abandoned and the lumber hauled away.

A well was drilled on the Dick farm, about one mile south of the Lyons Run ventures,but it it proved a small producer. This was followed by a gusher on the Daum farm, about one-half mile south of the Dick well. Another successful venture was made on the McWilliams farm, about one-fourth mile east of the Dick well. These three producing wells are now owned by the Carpenter Natural Gas Co., and their product conveyed by pipe-line to McKeesport.

The National Tube Works Co., of McKeesport, have leased the Cooper farm. At a point about midway between the Acme Co.'s two wells they struck a bonanza. Although not troubled with salt water they have ereccted the best device for purifying gas in the district. The gas is piped to the Tube Works at McKeesport where it is utilized. This company intend putting down more wells. They have a telephone from the wells to the works. The Fuel Gas Co., successors to Pew, Emerson & Co., limited, are drilling on the Albert Dible tract.—[Westmoreland Democrat.

ANALYSIS OF NATURAL GAS.

Dr. George Hay has made the following report and analysis of natural gas, for the Natural Gas Commission of Pittsburg:

	Per Cent.
Carbonic Acid	0.00
Heavy Hydrocarbons (olefiant gas &c	0.50
Carbonic Oxide	1.00
Oxygen	1.30
Light Carburetted Hydrogen, (Marsh Gas)	95.20
Hydrogen	2.00
Nitrogen	0.00
	100.00
Specific gravity of dry gas	0.520
Specific gravity of wet gras	0.554

One hundred cubic inches of the gas, when exposed to water for twenty-four hours, will absorb 0.536 grains of water.

Natural gas explodes when mixed with from nine to fourteen volumes of air, the maximum violence being shown by a mixture with 12 volumes.

Artificial gas explodes when mixed with from six to nine volumes of air, the maximum violence being shown by a mixture with seven volumes. The maximum violence of an artificial gas explosion is greater than that of a natural gas explosion.

Dr. Hay stated that in his opinion natural gas is not a gas at all, but either a liquid or a solid owing to the pressure it is subjected to. When a well is drilled, some of this pressure is removed and the solidfied gas immediately volatilizes. High pressure lines are always unsafe they should be put up high in the air and never below the ground. For mill supply, large underground pipes at low pressure should be used.

Mr. Robert Young, Superintendent of the Allegheny Gas Works made the following statements: At fifty pounds pressure, natural gas will escape from any pipe. Oil country gas is richer in hydrocarbons than the gas piped to this city. Natural gas can be delivered through cast iron pipes, if the pressure is low enough. A pressure of five pounds is to be considered unsafe.

GAS FOR YOUNGSTOWN.

After much lobbying, the manufacturers at Youngstown, O., have succeeded in getting a bill through the Legislature authorizing pipelaying for natural gas. All rolling mill and blast furnace owners in this valley are interested. A large capital stock will at once be formed and this vicinity drilled for gas, and if not found an eight-inch pipe line will be laid into Butler county, Pa., thirty miles away, and tap numerous wells owned by Phillips Bros., of New Castle, Pa., and gas introduced into all the mills and furnaces here.

GAS AT BELLEVERNON

Messrs. R. C. Schmertz & Co., of Bellevernon, are manifesting considerable earnestness, in their efforts to secure natural gas as fuel in their glass works, at that place. Recently they drilled a well and were rewarded by striking a light vein, at the depth of 2,700 feet, but the flow was insufficient for the desired purpose. A derrick has been erected about 100 yards from this well and another hole will be drilled, with a hope of tapping the vein again, and in case of success, the flow of the wells will be combined and introduced into the glass works. In the event of gas being found in sufficient quantity the use of coal will be dispensed with.

PITTSBURGH.

The Fuel Gas Co. has received the contract from the Water Committee to supply the water works at Pittsburg with natural gas for one year. The contract price is $21,800. Last year the gas cost the city $44,000.

Natural gas been introduced for fuel into nearly all departments of Oliver Bros. & Phillips' Fifteenth street mill. The following companies are also using natural gas at their manufactories: Adams & Co., glass furnaces, Tenth street; G. Duncan & Sons, glass works; Wayne Iron Works, bar, sheet and finishing mill; Clarks' Solar Iron Works, all departments; Hussey, Howe & Co., steel works, use no coal for any purpose, axcept at their blacksmith forges.

NATURAL GAS COMPANIES IN OHIO.

The Fostoria Natural Gas Co., recently organized for the purpose of supplying the city of Fostoria, Ohio, with cheap hydro-carbon, is drilling a well in the suburbs of that city. The Fremont Natural Gas Co., have a well under way near Fremont O. Mr. P. W. Roth, of Bradford is largely interested in both of these companies. The Fostoria Company is composed of Ex-Gov. Charles Foster, P. W. Roth, W. W. White, John A. Bradner, Wm. M. Day, Joseph Gwynn and John E. Wilkinson.

NATURAL GAS COMPANIES CAN NOT BE INCORPORATED.

Judge Green of the Supreme Court has filed his opinion in the case of Emerson, et al vs. the Commonwealth, better known as the natural gas case, refusing a reargument. It will be remembered that the Supreme Court some months since reversed the judgment of Common Pleas No. 1, of Allegheny county, and decided that the incorporation of companies for furnishing natural gas was not provided for by the act of 1874. After a most careful examination of the reasons assigned for a reargument, and an elaborate review of the various statutes bearing on the question, Judge Green holds that no latitude of judicial interpretation would warrant the conclusion that it was the intention of the Legislature to include the distribution of natural gas among the objects for which companies can be incorporated. The opinion closes as follows: "It will be infinitely preferable that the law-making power should now be directly invoked to confer the requisite authority for the full development of this great and new industry in clear, plain terms—and enlightened by the experience of the recent past. If this is done we see no reason to doubt that the application will meet with a ready and hearty response from the representatives of the people who possess all the power necessary to the occasion."

THE SPEECHLY GAS WELL.

The well on the Speechly farm, seven miles south-west of Oil City, found the gas sand at 1,944 feet. This is 500 feet below the regular gas sands of Venango county. The pressure from this well registers seventy pounds in a steam guage through a two-inch pipe. This is equivalent to a volume of about 150,000 cubic feet per hour.

THE BIGGEST GAS WELL IN OHIO.

While workmen were drilling at a gas well at Shelby, May 5, the largest vein of gas ever struck in Ohio was reached at a depth of 480 feet. The men were warned of its presence by a roaring sound and fled for their lives, barely escaping before the gas rushed from the orifice with a tremendous report shattering the derrick and throwing dirt and mud many feet into the air. A temporary pipe 70 in length has been laid connecting with the well, and furnishes a a steady stream of fire 25 feet high. If it were possible to confine the escaping gas it would show a pressure of fully 125 pounds to the square inch.

OIL REGION CHRONOLOGY FOR APRIL 1885.

April 1. AGE oil report shows 97 wells completed 17 of which are dry, new production 3517 barrels; new rigs, 131; old rigs, 159; wells drilling, 156; total field operations 446. Market dull and featureless. Thorn Creek gauge 6980 bbls.

Eighty quarts of nitro glycerine explodes at one of Whitney & Wheeler's wells Tram Hollow, demolishing boiler and boiler house. No one injured.

Bradley well Stone farm Macksburgh, shot, showing for 7 bbls. Lee & Apple No. 2, on Coal lands starts of at 60 bbls.

Iron bridge over Allegheny at Parker, washed away by flood. Two spans demolished.

April 2. Seventeen wells in the sand at Thorn Creek. Guage 1000 bbls less than yesterday. Ackerley well reported flowing at 3000 barrel gait. Market lingering in the eighties. Bradford police present Mayor Broder with a gold watch.

April 3. Good Friday. Oil City visited by a flood. The Allegheny suddenly begins to fill with ice and a huge ice gorge is soon formed. At one o'clock this morning water was nearly up to high water mark of 1873. Began to recede at 2 a. m.

April 4. Market drops off to 78½ and closes at 78¾. The B. N. Y. & P. R. R. between Limestone and Hickory completely covered with ice for two miles. Ties washed out and rails bent and broken, ice masses in many places twenty feet in height. Cal. Payne's No. 1, on Jeffrey farm Macksburg, shot and rated at fifteen barrels.

April 6. Market uninteresting. Trial of Riddle and Reiber of the Penn Bank, Pittsburgh, for conspiracy to defraud depositors called up in the Criminal Court Pittsburgh and postponed until June term. Bradford's new city government with Mayor Shannon at the helm, sworn in.

April 7. The Buffalo Lubricating Oil Company limited bring a suit against the Standard Oil Co., in the Supreme Court at Buffalo, laying damages at $250,000. Producers No. 15, Thorn Creek, starts at 4,000 barrel rate. Market weakens slightly. Patterson well on Berlin tract, Cogley Run, completed and showing small. Legislature by a vote of 87 to 73 decides to recon-

sider House Bill No. 33. Senator Vedder's bill, of same purport as No. 33, passed the Senate at Albany by a vote of 18 to 9. James D. McKee, a well known oil broker of Pittsburgh commits suicide by shooting himself through the head.

April 8. Thorn Creek gauge 10,616 bbls an increase of 2,283 bbls over yesterday's figures.

April 9. Rumors of war in Europe cause firmer feeling in all speculative markets. Petroleum advances from 77¾ to 79¼ closing at 78¾. Patterson well at Cogley Run, shot, and makes 30 barrels first twenty four hours. Barber well found seven feet inferior sand. Great excitement at Parkesburg Chester county, over prospective oil field in Sudsbury township

April 10. Ackerley No. 2, Thorn Creek starts at 175 barrels an hour. Now 108 wells in Macksburg field producing about 950 bbls a day, One year ago April 2d, there were 23 wells with 120 bbls daily production. Fogel well, Kinzua Village reported dry. Beecher & Copeland on Harris farm half mile east of Parker 2, in sand and showing considerable oil. Fire in Pine St. Bradford, Mrs. Cummings, badly burned and afterwards dies.

April 11. Pipe line reports show average daily runs for March 54,098; shipments, 60,861. Stocks decrease 248,901 bbls. European war news again made the basis for a small advance in market. Thorn Creek gauge 12,290 bbls from 89 wells. Increase 2,751 bbls over yesterday. Boden & Aiken, No. 9 on Dyer, Macksburg, shot, expected to make 50 bbl well. Scott Mills has completed a well of uncertain calibre on the Morris farm.

April 12. Sunday, a regular winter day with considerable snow. Weather receives more cursing. Barber well Cogley Run, showing light, condemns considerable prospective oil territory. Death of J. W. Butters, an old and highly respective oil producer at Titusville.

April 13. More snow. Thorn Creek gauge 11,887. Market dull but fairly firm. Downer Kerosene Oil Co., close their business at Corry and will remove to Boston, May 1st. Hite & Co., well on Wilt farm, St. Joe fourth sand, starts pumping 60 bbls a day without shooting. Well at Ensworth, 2½ miles from Glenfield Station on Pittsburg Ft. Wayne & Chicago R. R. said to have made a flow. Well plugged and guarded. Has been drilling seven months and is 2,000 feet deep. Tanks are being erected and owners believe they have a 200 bbl well.

April 16. Arbor Day. Few trees planted on account cold. Thorn Creek gauge 12,433 bbls. Market dull and weak. Rock Glycerine Co.'s manufactory at Custer City, exploded for second time. No one injured seriously. John Benninger a former Venango county driller and pipe line man, now drilling in Russian oil fields receives the contract from British Government for constructing the Suakim Berber pipe line in Egypt, negotiations with Alfred Smiley having fallen through.

April 17. Parker & White No. 2, at Kinzua Village shot. Nicholson well at Pomeroy, Ohio, one hundred miles south west of Macksburg, drilled for gas, reported to have struck the Macksburg rock and filling up with oil. C. F. Lutkins & Co., find a small producer on the Pastorius farm, two miles south of Titusville. Thirty-six feet of excellent sand struck at depth of 908 feet. Death of Thomas W. Anglun, a well known Bradford landlord and oil producer at Detroit, Mich.

April 18. Parker & White No. 2, Kinzua Village, shot yesterday at 2:30 p. m. made 97 bbls up to 8 a. m. to-day, Market closes steady at 78¾. Carrying rates at New York have advanced to 60 and 75 cents a day. Thorn Creek gauges 11,037 barrels from 96 wells.

April 19. Well on Speechly farm near Coal Hill seven miles east of Oil City, finds a sand rock at 1,944 feet, five hundred feet below any of the known Venango sands? It is a good gasser. The well at Pomeroy, Ohio, reported dry.

April 20. War news again threatening. Market firm. Parker No. 1, Kinzua Village shot with 80 quarts and throws out considerable water. Will be pumped.

April 21. Thorn Creek gauge 9,275. Market breaks a full cent from highest price of day and closes weak at 77¾. Painter Bros.' well on the Reibold farm west of Baldridge, makes a two minute flow while at work drilling out plugs.

April 22. Stow well Thorn Creek shot, and showing small. Market shows signs of improvement. Independent Oil Refinery at Oil City badly damaged by fire.

April 23. Parker No. 1, Kinzua Village pumps 30 bbls first 24 hours. No. 2, doing 70 barrels. Market somewhat firmer. Closes at 78⅞.

April 24. The Beecher Copeland well on Harris farm at Kinzua Village shot in the slate with 40 quarts. Salt water vein opened and well is looking poorly. Market slightly weaker. A 40 H. P. boiler on the Angell Oil Co.'s lease at Knapp's Creek explodes, killing George Cripps, the engineer and team of horses.

April 25. One hundred producing wells at Thorn Creek gauge 8,682 barrels. Judge Bailey of the Allegheny county Criminal Court, denies the application of Milton Weston one of the Murraysville rioters for a new trial and sentence him to pay the costs of the prosecution and undergo an imprisonment of five years in the Western Penitentiary.

April 26. Fred Hue & Co.'s well on the Hoop farm north of Kinzua Village, through sand, and abandoned.

April 27. Market once more reaches the 80 cent point. Hon. W. W. Brown begins his scheme for beautifying Bradford's public square by planting twenty vigorous trees.

April 28. House Bill No. 33, not called up to-day, but held over. Charter granted at Harrisburg to Thorn Creek narrow guage railroad

to be built from a point on the Pittsburg & Western Railroad near the mouth of Thorn Creek through the new oil region to Serversville on the West Penn., R. R. Distance 12 miles. Capital stock $120,000. Market closes at 80⅛.

April 29. Clark & Foster well on Balph farm St. Joe district through sand and dry. Market opens at 80¼ and closes at 80⅜ bid.

April 30. Market closes at 81 bid.

NOTES ON VARIOUS TOPICS.

A nugget of gold weighing 28 pounds (about $5,000) has been found at the Berlin diggins, Victoria, and brought into Dunolly by two miners. The gold-field was celebrated for nuggests some years since, and the present find will no doubt lead to the discovery of others.

The new steel steamship of the Cunard line the Etruria, is ready to leave her builders wharf on the Clyde and make her first trip across the Atlantic. She is 520 feet long, 57¼ feet broad and 41 feet deep. She registers 8,000 tons burden and her engines are 12,500 horse power.

A bill has been introduced into the Illinois Legislature to increase the fire test of refined oil sold in that State to 160 degrees. At present there is but one State, Michigan that requires this test.

REGULATION OF PETROLEUM STORAGE IN BERLIN.

After receiving much testimony as regards losses, and consulting with experts, the police authorities of Berlin, Prussia, have issued orders, to take effect October 1st next, that in all rooms where fluids or spirits of any kind for burning are stored within the city, the walls must be of stone or brick, ceilings solidly vaulted, and floors must be of stone or slate, laid in cement, or the floor made of some other incombustible substance, and in all cases to have an inclination of at least one foot in the hundred feet to a well, which latter must have free communication with a natural stream or the system of sewers (canalization). Only reservoirs made of incombustible materials are to be used for holding the burning-fluids, and each of these vessels must have a ventilating tube, not opening into the store-room, but carried to the outer air, where they must be at the end of the tube proper protection of wire gauze, etc., to prevent introduction of flame. No lights are to be permitted in such storerooms, except candles, or lamps burning oil or fat, and any light used must be inclosed in a safety-lamp, such as the Davy wire-gauze lantern.

A significant features of the exports of petroleum has been the shipment of a full cargo of refined to Cronstadt, Russia. It is over two years since any previous shipments have been made to that port, and the only expors to Russia during that period comprise a cargo to Wasa in June last and one in August to Riga.

The Vinson Oil Company, of Kentucky, located on Big Blaine, near Louise, has made its first shipment of oil. It has two kinds of oil, both obtained from the same well. One kind is what is called the green and the other the yellow. The green is found at a depth of 353 feet from the surface, and the yellow is found at the depth of 358 feet.

Canadian Oil has advanced from 78 to 82¼ cts. per barrel. Refined is steady at 15 cents per gallon for car iots. The shipments for April, crude and crude equivalent amounted to 25,750 barrels.

Chilled iron is the most impenetrable of all metals. In warfare it is the only sure defense against heavy modern guns. A plate of chilled iron may be thin enough to he shattered, but no such plate has ever been penetrated.

Dakota has 2,500 miles of railway, 2,000 school houses, and 275 newspapers.

The first steam engine was brought to this continent from England in the year 1753, Twenty-years later—1773—the number of steam engines in the United States was but three.

Colorado Springs claims the honor of beating the whole country in the variableness of temperature, the thermometer there having shown a variation of 72 degrees in twenty-four hours during a recent cold wave.

"I can always tell the nationality of an engineer by the complaint he makes," said an old engine builder and repairer in one of our contemporaries. "The Scotchman is always worried about the 'boch losh;' Englishmen and Irishmen are always fighting 'the thump,' which they firmly believe was left for them to remove; the German is very much concerned about 'dem walves,' while the Yankee has a hard time to keep her from chawin' too much steam."

The latest thing in explosives is blasting paper. Dynamite, it is claimed, is nothing to it, and it can be made at so small a cost that the present condition of the dynamiters' treasury would suffice to furnish enough of it to blow all England into "smithereens.". It is a patent of Viennese by the name of Petry, and is now coming into use in excavating for building purposes. It is made of common blotting paper. The paper is coated with a hot mixture composed of 17 parts of yellow prussiate of potash,

19 parts of charcoal, 35 parts of refined salt, 70 parts of chlorate of potash, and 10 parts of wheat starch, added to 1,500 parts of water. The sheets are dipped in the boiling mass and dried. Then they are cut into strips, which are rolled into catridges, and the article is ready for use.

The Daily News of Philadelphia has opened a subscription list for the Bartholdi pedestal, and says that Philadelphia will complete the fund that New York has been so slow in raising.

The production of anthracite coal for the month ending April 18, was 627,268 tons, making for the year to that date 6,745,742 tons, which is less than the output for the same period during the past four years.

CRUDE MARKET FOR APRIL.

The month of April witnessed a dull, inactive market, with business nearly at a stand still. Variations were small, and for several days the fractions moved only a quarter of a cent each way. The speculative trade seemed excessively weary of handling oil certificates. The little trade that might be induced to take a hand in the oil exchanges has been content to dabble in the numerous bucket shops that are springing up all over the country. A few small booms were inaugurated on the strength of the impending conflict in Asia, and towards the close of the month the small outcome of the Stow well at Thorn Creek was made the pretext for a slight advance. The feeling of firmness melted away, however, when the figures on the April field report appeared, showing, as they did, that the producer was ready to drill the smallest kind of territory on a market that promised prices in the eighty-cent neighborhood.

The month opened at 81 cents and closed at the same point in all the exchanges. The highest points were reached on the first and last days of the month, which were 81¼ and 81½ cents respectively. The lowest price, 77⅛, was touched at Bradford and Oil City on the 8th. The range of prices was but 4⅜ cents as compared with 8 cents in March and 16⅜ cents in February. The average price for the month on the floor of the Bradford Exchange was 78⅞ cents in April against 80⅜ cents in March and 73⅛ cents in February. The average price for April one year ago was 94 cents.

THE CLEARANCES.

	April. Barrels.	March. Barrels.
Bradford Oil Exchange	59,726,000	123,976,000
Oil City	86,264,000	152,806,000
New York, N. Y. Pet	73,534,000	141,076,000
New York, National	132,770,000	208,510,000
Pittsburgh Petroleum (new)	38,731,000	81,268,000
Total	391,025,000	707,636,000

THE REFINED MARKET.

Refined was in fair demand during April and prices were maintained without material change. The threatening attitude of England and Russia caused a momentary excitement and induced a belief in a speedy advance, which however did not take place. The situation abroad shows an unchanged condition in the amount of stocks on hand, and should bring about a heavy spring trade. Charters were unusually large duuring the month, many being made before the vessels arrived in port.

The home trade has been small with unchanged quotations. Naphtha, residuum and gasolene have been in good demand. In cases an active movement is reported with prices at 9¼ for plain and 9½@10½ for fancy brands.

Mr. Geo. H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East, up to the first of May, for the years 1884 and 1885:

	1885. Cases.	1884. Cases.
China.—Shanghai, previously reported	426,950	132,870
" April	53,100	
Hong Kong, previously rep'd	253,161	326,400
" April	43,534	
Japan.—Yokohoma, previously rep'd	397,189	179,303
" April	45,000	
Hiogo	206,450	101,100
Nagasaki	. . .	39,516
India.—Calcutta, previously reported	477,382	858,306
" April	60,852	
Bombay, previously reported	571,310	104,650
" April	78,749	
Kurrachee	57,937	. . . .
Point de Galle	31,598	. . . .
" April	18,428	. . . .
Madras	. . . .	42,260
Rangoon	. . . .	78,242
Java.—Batavia	98,190	222,447
Anjier	349,207	335,644
Singapore	81,680	48,520
Penang and Singapore	. . . .	28,900
Penang, February	21,525	29,750
Other Eastern Ports	91,552	81 326
Total May 1	3,363,994	2,609,234
Total March 1	2,780,867	1,391,488
April Clearances	583,127	1,217,746
Decrease, as compared with same time last year (cases)	634,619	

REFINED QUOTATIONS FOR MARCH.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwerp.
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	8	7¾	7⅞	7	7 00	17¾
2	7⅞	7¾	7¾	6⅞	7 00	17¾
3	. .	. .	. .	6⅞	7 00	17¾
4	7⅞	7¾	7¾	7⅛	7 00	17⅝
5	. .	. .	. .	. .	. .	. .
6	7⅞	7¾	7¾	6⅞	7 00	17⅝
7	7⅞	7¾	7¾	6⅞	7 00	17⅝
8	7⅞	7¾	7¾	6¾	7 00	17¾
9	7⅞	7¾	7¾	6¾	7 00	17¾
10	7⅞	7¾	7¾	6¾	7 00	17⅝
11	7⅞	7¾	7¾	6¾	7 00	17½
12	. .	. .	. .	. .	. .	. .
13	7⅞	7¾	7¾	6¾	7 00	17⅝
14	7⅞	7¾	7¾	6¾	7 00	17⅝
15	7⅞	7¾	7¾	6¾	7 10	17⅝
16	7⅞	7¾	7¾	6⅝	7 10	17⅝
17	7⅞	7¾	7¾	6⅜	7 10	17⅝
18	7⅞	7¾	7¾	6⅜	7 10	17½
19	. .	. .	. .	. .	. .	. .
20	7⅞	7¾	7¾	6¾	7 10	17⅝
21	7⅞	7¾	7¾	6¾	7 10	17⅝
22	7⅞	7¾	7¾	6⅜	7 10	17⅜
23	7⅞	7¾	7¾	6⅜	7 10	17⅝
24	7⅞	7¾	7¾	6⅜	7 10	17⅝
25	7⅞	7¾	7¾	6⅜	7 10	17⅝
26	. .	. .	. .	. .	. .	. .
27	7⅞	7¾	7¾	6⅜	7 10	17½
28	7⅞	7¾	7¾	6⅛	7 10	17½
29	7⅞	7¾	7¾	6¾	7 10	17½
30	7⅞	7¾	7¾	6⅛	7 10	17½

WHITE SAND POOLS.

Cherry Grove, Cooper and Balltown Pipe Line Runs to April 30th, 1885.

1882.	Ch'y Gr've.	Cooper.	Balltown.	Total.	Daily Av'ge
	Bbls.	Bbls.	Bbls.	Bbls.	Bbls.
May	6,765	....	....	6,765	218
June	91,102	....	....	91,102	3,037
July	268,294	....	....	268,294	8,655
August	753,752	....	....	753,752	24,315
September	690,072	....	....	690,072	23,002
October	290,246	3,712	....	293,958	9,483
November	146,587	8,810	....	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	163,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114,233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87,193	261,784	8,445
April	31,191	126,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	89,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67,883	151,913	4,900
September	19,590	64,648	63,453	147,691	4,923
October	13,824	56,151	55,211	125,186	4,038
November	12,689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25,469	62,262	2,224
March	11,558	26 866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
TotalApril30,'85.	3,406,703	2,255,834	1,689,877	7,352,414	6,708

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to April 30th, 1885. Cherry Grove has produced 3,406,703 barrels, Cooper 2,255,834 and Balltown 1,689,877 barrels. The daily average runs from the three fields during April were 2,188 barrels, a decrease of 6 barrels from the March figures. The daily average runs from the Cooper and Henry's Mills sections for April were 1114 barrels, for March, 867, and for February 987 barrels.

The Balltown field has a daily average of 775 for April against 954 in March,. Cherry Grove averaged 299 barrels during April 373 in March and 327 in February.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to April 30, 1885, inclusive, has been 7,352,414 barrels, a total daily average of 6,708 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are enumerated in the list. In the Baldridge are included the runs from the prolfic Thorn Creek district. The pipe line runs from these sections since April 1st, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average.
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1.015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February, 1885	205,774	7,349	18,570	663
March	224,398	7,239	18,770	605
April	280,005	9,333	15,823	527

SUMMARY of the statement of the Tidewater Pipe Co., Limited, for April, 1885.

		Barrels.
Quantity of crude petroleum in custody at beginning of April		1,492,478.68
Quantity of crude petroleum at close of April	1,617,133.37	
Less sediment and surplus	104,493.84	
		1,512,639.53
Receipts during April		
Deliveries during April—to refiners	169,480.45	
" " " —to other parties	....	
		169,480.45
Outstanding certificates, accepted orders, etc		823,000.00
Credit balances		689,639.53
Total liabilities April 30, 1885		1,512,639.53

MARCH SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of March		1,495,852.79
Quantity of crude petroleum at close of Feb	1,579,774.99	
Less sediment and surplus	87,296.31	
		1,492,478.68
Receipts during March		184,559.42
Deliveries during March—to refiners	184,913.51	
" " " to other parties	....	
		184,913.51
Outstanding certificates, accepted orders, etc		822,000.00
Credit balances		670,478.68
Total liabilities March 31, 1885		1,492,478.68

SUMMARY of the statements of the National Transit Co., for April and March, 1885.

	April.	March.
Receipts from all sources	1,627,341.21	31,476,301.20
Deliveries	1,646,273.83	31,694,945.24
Gross stocks end of month	37,330,872.86	37,086,384.10
Sediment and surplus	2,909,722.87	32,618,060.46
Total liabilities end of month	34,421,149.99	34,468,323.64
Outstanding acceptances	27,474,098.56	27,417,675.12
Credit balances	6,947,051.43	7,050,648.52

The above receipts from all sources for April were made up as follows:

Transferred from United Pipe Line as reported to N. F. Hilton, representing Conference of Oil Exchanges	20,056.12	
Less sediment and surplus	....	
Net amount from United Pipe Lines		20,056.12
Runs from wells		1,604,795.50
Received in iron tanks		2,489.59
Total		1,627,341.21

THE AVERAGE PRICE OF CRUDE.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

	1879	1880	1881	1882	1883	1884	1885
January	..	110 1-5	95	83	92¾	111⅓	70¾
February	..	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅜	80⅜
April	78⅜	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85½	
June	68⅜	100¼	81	54½	117¼	68¾	
July	69⅞	101¼	76½	57⅝	108	63½	
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92¼	71⅓	112½	78	
October	88⅛	96¾	92¾	93⅜	111⅛	71	
November	105⅜	91¼	82⅓	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

PETROLEUM EXPORTS.

THE exports of refined, crude and naphtha, from all United States ports from Jan. 1 to May 5, for the years 1884, 1885, were as follows:

	1885. GALLONS.	1884. GALLONS.
From Boston	2,119,256	1,964,444
Philadelphia	34,785,481	16,378,338
Baltimore	2,826,438	1,766,211
Total	36,731,175	20,108,993
From New York	113,444,296	112,881,338
Total exports from United States	153,175,471	132,990,331

The appended table from the *Shipping List* gives the total exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1st to May 9th, for the years 1884 and 1885:

REFINED.

	1885.	Total.	1884.
GREAT BRITAIN.—London	7,898,911		3,869,359
Liverpool	3,326,021		393,623
Bristol	2,110,239		390,780
Ireland	1,584,356		752,849
Other ports	2,542,068		1,199,623
		17,461,595	
GERMANY—Bremen	6,037,264		13,152,100
Hamburg	9,391,454		14,558,092
Konigsburg and Stettin	569,024		1,599,136
Dantzic	482,394		
Other Ports	196,222		
		16,676,358	
FRANCE—Marseilles			
Havre			
Norway and Sweden	1,166,574	1,166,574	1,003,591
Russia	102,037	102,037	
DENMARK—Tuborg	305,250		
Aarhuns	283,214		
Aalborg			
Copenhagen	1,059,320		2,246,827
Elsinore			
Kastrup	402,563		
		2,054,347	
Belgium	8,103,091	8,103,091	10,820,860
HOLLAND—Amsterdam	3,860,096		
Rotterdam	1,875,263		
		5,735,359	9,702,934
Spain			70,000
Portugal	280,552	280,552	238,066
Gibraltar and Malta	503,000	503,000	2,199,160
Italy	744,075	744,075	521,779
Austria.--Trieste, etc	483,945	483,945	1,480,870
Greece	384,000	384,000	
Turkey in Europe	968,234	968,234	313,790
Turkey in Asia	571,100	571,100	483,700
Arabia	250,000	250,000	
INDIA AND SIAM—Bombay	6,490,590		
Calcutta	4,894 820		
Point de Galle	500,260		
Bangkok	325,000		
Kurrachee	579,370		
		12,790,040	9,139,020
CHINA AND JAPAN—Shanghae	4, 00,500		
Hong Kong	2,966,950		
Yokohama	4,592,630		
Saigon	240,520		
Tientsin	150,000		
		12,750,600	7,882,440
EAST INDIES—Anjier	3,492,070		
Batavia	1,246,900		
Iloilo			
Manila			
Padang			
Penang	215,250		
Rangoon			
Singapore	559,500		
Banjermassin	200,000		
		5,713,720	7,860,070
AFRICA.—Alexandria, etc. E	1,067,240		503,210
Canary Islands	54,000		10,000
Other Ports	681,920		566,182
		1,803,160	
Australia	1,316,270	1,316,270	832,889
New Zealand	665,764	665,764	257,573
Sandwich Islands			125,100
SOUTH AMERICA.—Brazil	2,960,164		1,218,385
Argentine Confederation and Uruguay	1,168,910		1,056,670
Chili and Peru	301,139		189,300
U. S. Columbia	114,568		182,571
Venezuela	238,289		212,432
Other Ports	15,110		28,300
		4,798,180	
Central America	75,437	75,437	55,301
Mexico	542,116	542,116	484,655
British North American Colonies	361,567	361,567	307,614
Cuba	169,349	169,349	191,733
British West Indies and Br. Guiana	777,300	777,300	569,213
Other West Indies	549,741	549,741	483,939
Total Galls.	97,800,511	97,800,511	97,123,736

CRUDE.

	1885.	Total.	1884.
FRANCE.—Havre	2,434,230		3,003,014
Marseilles	1,118,392		1,463,532
Bordeaux	571,024		607,441
Dunkirk	2,314,499		1,764,895
Cette	687,857		
Rouen	253,524		
Les Sables d'Ollone	119,961		
St. Loubes			
		7,499,487	2,485,811
Antwerp			
Bremen	1,287,302	1,287,302	
Austria—Fiume	423,815	423,815	3,555,915
Norway and Sweden			
SPAIN—Alicante	1,459,353		
Pasages	180,755		
Bilboa	1,098,800		
Barcelona	519,018		
Carthagena	42,786		
Corunna	681,794		
Malaga	400,410		
Santander	445,890		
Seville	460,750		
Tarragona	83,910		
Valencia	456,828		
		5,830,294	3,981,684
Cuba	1,298,322	1,298,322	1,222,947
Total Galls.	16,339,220	16,339,220	18,085,230

NAPHTHA.

	1885.	Total.	1884.
Great Britain	1,138306		878,042
France	303,712		385,606
Germany	201,145		211,090
Other Europe	427,483		25,095
Various Ports	23,475		39,529
Total Galls.	2,094,121		1,539,362

RESIDUUM.

	1885.	Total.	1884.
To all Ports	1,246,300	1,246,300	1,048625

	GALLONS.
Total Refined since January 1, actual shipments	101,077,892
do do do do crude equivalent	134,770,523
do Crude do do actual shipments	16,460,170
Grand Total Crude and Crude equivalent . . . . galls.	151,230,693
Same time, 1884	150,704,752

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, May 7, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude.	Naph.	Res.	Total.
New York	42	21	6	3	3	75
Philadelphia	25	14	13	2	1	55
Baltimore	3	0	0	0	1	4
Boston	2	0	0	0	0	2.
Total.	72	35	19	5	5	136
Total April 7	41	34	20	2	2	99
Difference	31	1	1	3	3	37.

RUNS, SHIPMENTS AND STOCKS.

RUNS OR RECEIPTS.

PIPE LINE.	APRIL, 1885,	MARCH, 1885.
National Transit Co	1,604,795.50	1,471,543.94
Tidewater	192,515.52	184,559.42
Octave Oil Co	2,645.60	2,447.21
Charley Run		
Shaffer Run		
Franklin (limited)	8,563.09	6,205.07
Cranberry Pipe Line	2,342.70	2,282.04
Total	1,810,862.41	1,667,037.68
Daily average	60,362.08	54,097.99

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	APRIL, 1885.	MARCH, 1885.
National Transit Co	1,646,273.83	1,694,945.24
Tidewater	169,480.45	184,913.51
Octave Oil Co	3,068.07	2,520.59
Charley Run		
Shaffer Run		
Franklin (limited)	4,930.40	1,641.66
Cranberry Pipe Line	1,930.89	2,664.38
Total	1.825.683.64	1,886,688.38
Daily average shipments	60,856.12	60,860.91

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36

Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532.22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020.89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily exeess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23
Daily excess of runs over shipments, December	6,395.92
Daily excess of shipments over runs, November	3,548.49
Daily excess of shipments over runs, October	3,972.41
Daily excess of shipments over runs, September	11,372.77
Daily excess of runs over shipments August	1,571.67
Daily excess of runs over shipments, July	12,905.31
Daily excess of runs over shipments, June	12,183.86

NET STOCKS.

Pipe Line.	April 30, 1885.	March 31, 1885.
National Transit Co	34,421,149.99	34,468,323.6
Tidewater	1,512,639.53	1,492,478.68
Octave Oil Co	5,158.72	4,640.02
Charley Run	3,717.00	3,717.00
Shaffer Run	30,636.32	30,636.32
Franklin (limited)	27,499.11	23,866.42
Cranberry Pipe Line	24,279.20	23,867.39
United Pipe Line	319.65	20,375.77
Total	36,025,379.52	36,067,905.24

Stocks decreased April	42,525.72
Stocks decreased March	248,900.89
Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780.27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552.87
Stocks decreased Oclober, 1884	616,976.88
Stocks decreased September, 1884	345,281.52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.10
Stocks increased June, 1884	190,320.23
Stocks increased May, 1884	322,981.75
Stocks increased April, 1884	1,945,919.83
Stocks increased March, 1884	164,711.33
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56
Stocks increased, December, 1883	220,328.28
Stocks Decreased November	121,800.43
Stocks Decreased October	135,681.61
Stocks Decreased September	350,167.79
Stocks Decreased August	269,053.22
Stocks Increased July	386,004.51

	Receipts.	Deliveries.
Daily Average April	60,362	60,856
Daily Average March	54.098	60,861
Daily Average February, 1885	54,976	67,667
Daily Average January, 1885	53,290	58,183
Daily Average December	61,743	76,808
Daily Average November 1884	61,751	69,264
Daily Average October,	63,064	80,966
Daily Average September,	65,952	76,391
Daily Average August, 1884	66,996	64,402
Daily Average July, 1884	66,702	56,170
Daily Average June,	67,350	60,907
Daily Average May,	66,688	56,448
Daily Average April,	65,794	54,773
Daily Average March,	64,590	60,445
Daily Average February,	64,573	59,420
Daily Average January, 1884	58,178	54,404
Daily Average December, 1883	62,830	56,434
Daily Average November	65,281	68,829
Daily Average October	67,649	71,621
Daily Average September	66,210	77,582
Daily Average August	68,877	67,306
Daily Average July	65,628	52,722
Daily Average June	70,443	58,259
Daily Average May	69,445	61,411
Daily Average April	69,207	63,612
Daily Average March	64,404	52,732
Daily Average February	65,208	44,375
Daily Average January	65,125	43 813

MACKSBURG IN APRIL.

Fourteen wells were completed in the Macksburg district during April, having an estimated new production of 358 barrels on the last day of the month. Operators were mildly agitated over a test well drilled by the Standard Nail and Iron Co., at Clifton, West Virginia, on the W. Virginia side of the Ohio river. There was a small showing of oil in the top sand, which was struck at a depth of 1,528 feet. The well was watched by a number of well known Bradford oil men, and two of them saw the drill cut its way through the interesting section of the rock formation. The well was finished on the 18th of April, at a depth of 1,548 feet. On the last day of April, there were 19 rigs up and building, and 47 wells drilling in the district. The report of March 31st, showed 28 rigs and 46 drilling wells. The production May 1st, is estimated between 1,300 and 1,400 barrels.

WELLS COMPLETED IN APRIL.

Farm.	*Operator.*	*Barrels.*
Finch	Denman Mills & Mullin No 1	10
Patton	do do No 1	8
Perkins	Borckman & Laney Bros	54
Stone	Bradley Oil Co No 1	12
Gervez	C N Payne No 1	12
L Shilling	do No 3	15
Morris	Scott Mills No 1	6
Wiper	Porter & Gillmor	gas
Clifton	WV Standard Nail & Iron Co	dry
Dyer	Boden & Aiken No 6	40
do	do No 7	70
do	do No 9	50
Coal Lands	Lee & Apple No. 3	30
Eagler	W E Decker & Son	25

Wells	14
Production	358
Dry	2

RIGS UP AND BUILDING AND WELLS DRILLING.

Farm,	*Operator.*	*Depth.*
McLouth	Bradley Oil Co No 1	1200
Coffee	Barnsdall & Denman No 1	900
do	do No 2	800
do	do No 3	750
Phelps	do No 1	1400
do	do No 2	800
do	do No 3	800
do	do No 4	rig
Merrow	do	300
do	do	rig
Hupp	do No 1	100
do	do No 2	rig
Schilling	Denman Mills & Mullin	rig
do	C N Payne No 3	1200
Paton	Mills Mullen & Denman	50
Smithson	Macksburg Oil Co No 4	700
do	do No 5	rig
Clinedinst	J D Wolfe No 2	1300
do	do No 3	rig
do	do No 4	rig
do	do No 5	rig bldg
Hupp	Union Oil Co No 2	1000
do	do No 3	rig
Williams	do No 5	700
do	do No 6	rig
McGinnis	do No 3	1100
do	do No 4	500
Perkins	Waugh & Porter No 2	900
do	do No 3	800
Osborne	J C Lineman No 1	1350
do	do No 2	650
do	do No 3	rig bldg
Atkinson	Stevens & Co No 4	sand
do	do No 5	1100
A Stevens	Lineman & McKevett No 4	1200
Jersey	Borckman & Laney Bros No 9	300
do	do do No. 10	1200
George Rice	George Rice No 8	900
do	do No 9	200
do	do No 10	rig
A Perkins	do No 1	rig
Perkins	Borckman & Laney Bros No 5	1000
do	do do No 6	900
Clinedich	C J Garvey No 2	rig
Devoll	Bradley & Co No 4	1400
Dyer	Boden & Aiken No 1	1500
do	do No 5	1100
do	do No 8	1000
do	do No 10	700
Coal Lands	Lee & Apple No 4	1000
do	do No 5	850
do	do No 6	300
W Atkinson	D W Clark & Co No 2	1200
do	do No 4	rig
W Warren	Denman Mills & Mullin No 2	rig
do	do No 3	rig
do	do No 4	rig
Coal Lands	Laing & Geider No 6	sand
do	do No 7	1000
do	do No 8	800
do	do No 9	750
do	do No 10	rig
G Stevens	Mills & Mullin	50
Kathary	Bailey & Kathary (shut down)	1000
Big Run	Bradley & Co	300
Caldwell	Caldwell Gas & Oil Co (shut down)	drilling

Rigs	19
Drilling	47
Total	66

During the past eight months, the net stocks in the custody of the lines have been reduced 3,060,625 barrels, or at the rate of 382,578 barrels per month.

CHRONICLES OF THORN CREEK FOR APRIL.

The trend of the development of the Thorn Creek pool seems to have met with a sudden halt in its march toward the south-east. The Stow well on the Noel farm, shot on the 22d of April, reveals a broken formation in the oil producing rock, and denotes that the edge of the field on this side is close at hand. The practical failure of the Bolard & Thompson wells, west of the Stow and between it and the rich territory on the Mangel and Girard farms, lends additional certainty to this supposition. There is still room for a narrow belt to the north-east between the Markham No. 1, and the Keifer well on the Mates, and in this phenomenal field the rock can be figured to extend in almost any direction and find believers in the theory.

April 12. Murphy No. 3, shot yesterday, flowing at 600 bbls. a day

April 31. Fisher 8 stopped again. Producers 13 has 92 quart shot in it and unable to explode. Producers 19 35 feet in sand and flowing 20 an hour. Gillespie well, on Crawford farm, south-west of Thorn Creek, finds little oil in third sand. Is a failure.

April 14. Murphy 5 shot with 100 quarts. Gauge first hour, 165 bbls. Ninty-three wells in field, gauge 11653 bbls. Producers 19 making 500 bbls. a day. Stow, top sand.

April 15. Producer's No. 11 shot with 40 quarts. No response. Mushrush 9 showing for fair well. Murphy 5 made 1800 bbls. first 18 hours.

April 16. Phillips, on Girard, shot and made light response. Keifer well through sand. Fisher 8 begins flowing. Mushrush No. 9, 20 feet in sand and doing 10 bbls. an hour.

April 17. Fisher 7 shot with 80 quarts. Throws out water, but makes no other response. Murphy No. 3 made 423 bbls. last 24 hours and down to 18 bbls. an hour. Phillips Brothers, on Dunlap, through sand and dry.

April 18. Stow well, on Noel, 30 feet in sand. Owners think will make 100 bbl. well. Murphy No 4, 25 feet in sand. Producers No. 8, now pumping considerable oil and showing for a fair well. Christie 5, on Bartley, added to producing list. Small well. Mushrush 7, flowing 18 bbls. an hour.

April 20. Murphy No. 4, on the Mangel, drilling in good sand. Phillips 9, on the Mushrush, 40 feet in sand. Has made 17 bbls. the past 24 hours. Stow well through the sand and hole full of water.

April 21. Painter Brothers well, at Reibold Station, west of Thorn Creek, while drilling out plug makes a two minute flow. Ninety-nine wells, gauge 9275 bbls. Murphy 5, largest well in field and doing 900 a day. Mushrush 10, through sand and nearly dry.

April 22. Stow well shot with 180 quarts at 5:50 p. m. Cleans itself and fills up 500 feet with oil and water in two hours. Showing small. Fisher 8 and 16 make 1004 bbls. past 24 hours. Keifer well starts pumping at 10 bbls. a day. Fisher No. 7, Marshall, pumping 90 bbls. a day. Boyd No. 2, a few hundred feet below No. 1, through sand, with a little oil. Shows how completely rock is drained in the older section of this field.

April 23. Gauge, 8966 bbls. Ackerly No 1 stops flowing. Stow well thought good for 15 bbls. a day. Mushrush 8, 18 feet in sand, and 800 feet of oil in the hole.

April 24. Eighty quarts of glycerine lowered in Murphy No. 4. Shot exploded by bailer while bailing out water and hole caves in. Stow well tubed. Mushrush 10, shot. Hole nearly dry.

April 25. Five wells drilling near Stow are shut down. Producers 17, top sand. Boyd 2, pumping 75 bbls. a day. Christie 1, Kennedy, top sand. Producers 3, 8 and 11 have water exhausted and are producing oil.

April 27. Murphy 3 stops flowing. Stow well pumping salt water. Owners of Painter well, at Reibold, report through 45 feet of hard sand and 1200 feet fluid in the hole.

April 28. Stow pumping 15 bbls. a day. Producers 17, fishing in sand.

April 29. Producers No 15, stops flowing.

April 30. Producers 22, drilling in sand and flowing 25 barrels an hour. Gauge, 7595 bbls. Mushrush 7 and 8, shot.

May 1. Fisher 8, flowing 30 bbls. an hour. Producers 22, averaged 27 bbls. per hour. Murphy 3 and Producers 15 doing nothing. Stow well made 24 bbls. last 24 hours, when valve broke.

May 2. Bolard & Thompson No. 2, drilling in hard, gray sand. Painter Brothers well, at Reibold, pumping 8 bbls. a day. Fisher 13, shot with 20 quarts and started up at 40 bbls. per hour. Producers 14, nearly through sand and showing poorly.

May 4. Bolard & Thompson No. 2, through sand and almost dry. No. 1 showing poorly. Stow No. 1, pumping 20 bbls. a day. Clark & Sutton well, on Morrison, mystified. Murphy

No. 4, starts flowing at 1 p. m. at 25 bbls. an hour. Painter well shot and showed very little improvement.

May 5. Bolard & Thompson No. 2, on Mangel, shot at 1:30 p. m. with 140 quarts. Threw out salt water and nothing else. Had 50 feet inferior sand. Producers 15, shot without response. Barnsdall well, on Div. 12 of Mangel, 25 feet in sand. Greenlee, on Mangel, 10 feet in sand.

May 6. Bolard 2, will make a 5 bbl. well. Christie Brothers No. 1, Kennedy farm, through sand and dry.

May 7. Fisher 11, Marshall, strikes sand. Clark & Sutton, on Morrison, found 8 feet inferior white sand with no oil or gas. Hole plugged and abandoned.

May 8. Bolard & Thompson No. 2 will be tubed and pumped. Barnsdall drilling out sand pump. Fisher 18, reaches sand. No. 11, 15 feet in sand and showing fair.

May 9. Greenlee, on Mangel, 30 feet in hard. grayish-white sand, with no show of oil. Fisher No. 18, is 16 feet in inferior sand. No. 11, 18 feet in fair sand. Producer 14, pumps oil and water.

May 11. Barnsdall & Co. well, on sub-division 12 of the Mangel, through sand. W. C. McBride No. 1, sub division 4, Stow lease, of Mangel, 8 feet in the sand. Fisher No. 11, 30 feet in sand and showing well. No. 18 is fishing 18 feet in sand. Producers 14, making 75 bbls. a day.

May 12. K. H. McBride & Co. No. 1, on Mangel, 700 feet north-west of Markham No. 1, 30 feet in sand. Barnsdall well, now owned by McBride, Stewart and others, through sand. Bolard & Thompson No. 1, pumping 10 bbls. a day. Largest well in field, Murphy No. 5, which is doing 800 bbls. a day.

The following table of the gauges of the Thorn Creek district at different dates, shows the gradual increase in the number of wells, and the varying rate of the production. The daily average of the pool for April, as shown by the scouts gauges, is 9,506 barrels. Many of the older wells in in the field, had the salt water cared off and were put in better condition than they have been since drilled through the sand. The steady part of these old wells has thus been as powerful a factor in mantaining a large average daily production for April, as the completion of new ones.

Date.	No. Producing Wells.	Production. Barrels.
November 9, '84	11	7,046
do 15,	18	15,445
do 20,	20	10,221
December 1,	24	7,855
do 8,	25	5,768
do 13,	30	14,264
do 15,	31	10,972
do 23,	38	7,140
do 31,	40	8,350
January 12, '85	43	5,340
do 30,	51	6,688
February 4,	52	5,941
do 14,	57	5,727
do 28,	63	7,341
March 18,	73	7,144
do 28,	77	5,875
April 4,	81	8,542
do 11,	89	12,290
do 18,	96	11,037
do 25,	100	8,682
May 2,	103	8,653
do 9,	106	7,515

The production of the Baldridge and Thorn Creek districts, as shown by the pipe line runs, has been as follows:

Month.	Runs.
April, '84	25,325
May	32,885
June	29,070
July	27,545
August	26,134
September	79,324
October	187,068
November	284,806
December	270,644
January, '85	192,180
February	205,774
March	224,398
April	280,005
Total	1,865,158

RUSSIAN PETROLEUM PRODUCTION FOR 1883 AND 1884.

The official returns of petroleum, etc., exportation from Baku to the rest of Russia and abroad in 1884, as compared with 1883, have just been published in the Moscow *Golos* as follows:

	1883. Poods.	1884. Poods.
Refined	11,927,880	21,721,971
Residuum	14,066,059	28,539,849
Naphtha	1,874,608	1,873,888
Lubricating oil	1,101,345	1,447,401
Benzine	46,544	76,006
Asphaltum	19,505	25,382
Total	29,035,941	53,684,497
Increase of shipments		24,648,556

Reckoning the pood at five gallons the production of the Russian oil fields at Baku was equivalent, in 1883, to 145,179,705 gallons or 3,456,659 barrels, 42 gallons each. In 1884, to 268,422,485 gallons or 6,391,011 barrels of 42 gallons each. This shows an increase of 2,934,352 barrels. Included in this is the residuum, naphtha, lubricating oil, benzine and asphaltum leaving only 21,721,971 poods or 108,609,855 gallons of refined petroleum.

Of the refined petroleum shipped, 17,572,641 poods went by sea via Astrachan to Russia alone. This shows a notable increase, yet nearly all the refined petroleum is consumed in Russia, very little of it in Western Europe, where it is estimated that not over 20,000 barrels actually went into consumption last year. It is different from lubricating oil, which evidently has a great future as an article of export to Western and Central Europe, although even in this item American competition is rather on the increase that otherwise. The Russo-German Petroleum Export Company has declared a dividend of 7 per cent for the fiscal year just ended.

THE PETROLEUM AGE.

DEVOTED TO THE

Interests of the Petroleum Trade.

PUBLISHED MONTHLY BY

McMULLEN SNELL, & ARMOR.

BRADFORD, PA.

W. C. ARMOR, MANAGER.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid) . . . . . $3.00 per Year in Advance.
Subscription Price (Postpaid) . . . . . $1.75 per 6 months in Advance.
Foreign Subscription . . . . . $3.50 per Year in Advance.
Single Numbers . . . . . 30 cents.
The Bradford office of the AGE is in the Producers Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

The effects of favorable weather are readily discernible in the Allegany and Bradford fields, both of which show a large increase in operations during April as compared with March. Allegany completes 9 productive wells, with an estimated production of 48 barrels the last day of the month. The new work under way at the close of the month is represented by 23 new rigs and 22 drilling wells. The old rigs number 53. This is an increase of 9 wells drilling and 15 rigs up and building. The old wells in the field are undergoing a thorough overhauling, and the April runs averaged 7738 barrels a day, an increase of 396 barrels over March.

BRADFORD FIELD.

The great northern region made considerable progress during the month just closed. A goodly number of the old-time producers were completed along the Cole Creek front, and the production of the field increased. Twenty wells were finished in April, with an estimated output of 578 barrels for April 30. As none of the drilling was of an experimental nature, all being within the well defined borders of the field, no dusty failures were recorded in Bradford's April report. At the close of the month there were 30 new rigs, 35 drilling wells and 53 old rigs that had been standing for thirty days or more. A striking feature of results in the Bradford field is an increase of 4,659 barrels a day in the pipe line runs.

WARREN AND FOREST.

The Middle Field affordedfew features of interest during April The activity about Clarendon and Tiona, noted in the review for March, has been kept up, and prospective territory to the south west of the old district has nearly doubled in value. F. W. Winger and L. Kraeer & Co., are finding very good wells on lot 241, while Fertig and Henne, on the east side of the field, are developing their property on lot 110. Cochran Brothers found a small well on lot 240, which is believed to be close to the eastern edge of the belt. The budding oil field north of Kinzua Village, has received a very severe set back within the past thirty days, in the shape of three or four dusters, which illustrate the uncertain character of the oil sands of that section. The two wells of Parker, White & Co., have settled to very ordinary producers, but not before they had misled a number of enthusiastic fortune hunters to anchor considerable capital in that vicinity. Fred Hue & Co. found a rank duster on the Hoop farm, about a mile north of the Parker No. 2 ; and Fogel & Brown discovered a second dry hole within 1500 feet of the initial gusher. Beecher & Copeland's well to the eastward, made a good showing, but the torpedo failed to make it fulfill its promises. The Sherman well, on the Whitcomb farm, found a large amount of slush oil at 375 feet, but failed to find any of the oleagious fluid at the spot where it should have existed.

On Warrant 3732, Sugar Run, Mead & Mc Kinney have completed a dry hole within a hundred rods of the Sherman well, in the south east corner of the warrant. Dr. Heath & Co., are drilling a wild cat well on lot 576, south west of Clarendon.

The old Wetmore well, on lot 464, near Stoneham, condemned years ago as dry, was drilled deeper by the Columbia Oil Co. in April, and found the regular producing sand. It is now known as Columbia, No. 17, and is doing 7 barrels a day.

On lot 440, in the Cooper district, Ray & Co. are drilling a well. It is located 550 feet north of the Reid & Brenneman No. 1, on the same lot. The projectors are figuring on a connecting belt from this point to the Tiona development. Warren and Forest completed 41 wells and 4 dry holes during April. The new production is placed at 277 barrels. On the last of the month there were 43 new rigs, 41 drilling wells and 31 old rigs in this field. This is an increase of 2 in the number of new rigs and of 16 in the wells drilling.

THE LOWER COUNTRY.

As the undrilled territory of the region grows scarce, operators retrace the ground which they once abandoned in haste, when something better appeared in sight, so it is now at various points, east and west of the Allegheny river, from Kinzua village to Brady's Bend. The old and outlying territory about Oil City and other points

south, is attracting considerable attention from prospectors.

C. F. Lufkin finished a small well on the pastorius property near Titusville, and the Columbia Oil Co. drilled one on the Columbia farm on Oil Creek, which started pumping at a twenty barrel rate. In the Mount Hope district, on the east side of the river, south of Franklin, explorations were signally unsuccessful during April. Two of the three wells completed near Shepard & Co., or the Galbreath well came in dry. T. H. Shepherd & Co.'s duster was situated on the Harrington farm, and that of Berringer & Co., was found on the Cramer. Since the first of May the large well has declined to 50 barrels, and could not be coaxed back to the pace which it held for a number of months. On the first of the month, two wells were being sunk in advance of the producing wells at the south western end of the Bullion belt. Since the first of the month, Lee & Co., completed a well near Gates Corners, about two miles south of Rockland station on the Valley railroad. A number of dry holes find position on the map near it. At last accounts it was pumping about fifteen barrels of oil daily.

At this writing Cogley Run has ten producing wells with an aggregate yield of about 200 barrels daily. There is a growing interest in the section, and lands are being leased miles north east of the present limited development. The new wells except one, have all been drilled since the first of the year, but the direction which the belt will take, or where the pool, if it be one, is to find its bordering lines, has not been ascertained. Test wells now projected, will give results from which inferences may be drawn on the future of the district. Operations are moderatly active in several localities along the borders of the oil field, and the total of new work for the district is slightly increased. The new developement at Martinsburg, afforded two new wells in April, each of which was rated on the first of the present month, at forty barrels. At some of the wells in this section, oil is found both in the bowlder and the third sand. The streak as now seen, is narrow and of uncertain length. The cross belt at St. Joe, contributed handsomely to the new production during April, as four of its new wells had a total production of 325 barrels on the last day of that month. The Clark & Foster well, on the Balph farm, an important venture in advance of the most easterly producing wells came in dry. Outside of Thorn Creek there were 19 new rigs, six old ones, and 27 drilling wells on the first of the month, and in the report of March 31st, there were 20 new rigs, three old ones and 18 wells drilling.

THORN CREEK.

As will be seen by the pipe line runs, Thorn Creek has swelled its production during April, but its future prospects as a controlling factor in oil speculation, have been materially dimmed. during the month of May. The block of territory made up of the Mangel, and adjoining farms on the east, has been demonstrated to be of a lighter grade than was expected by the most rampant bull. The Stow well on the south western corner of the Noel farm, was the first positive indicator of a sudden diminution in the capacity of the oil bearing rock to the east. The drill at this well disclosed a broken and irregular sand rock, formation and the oil bearing rock was of an inferior quality. The sand was struck at a depth of 1,738 feet, and after running thirty bits in it, the measuring line showed a depth of 1,792 feet. The explosion of 180 quarts of glycerine in the well, raised it to a twenty barrel pumper. The well of Painter Bros. on the Reibold farm, three and a half miles west of the McBride well, and one and three quarter miles southwest of the Baldridge or Renfrew pool, was mystified for a time for the purpose of securing lands and toying with the fractions. The well has been torpedoed, properly cared for, and will only make a small producer. M. L. Lockwood is drilling a test well on the McKinney farm, over two miles north west of Renfrew. The northern limit of the streak is well defined in the vicinity of the Mushrush farm, but farther to the east it remains to be determined. Gillespie & Co.'s well on the Crawford farm, carries the dry streak two and a half miles south east of the Harley dry hole. The most important well drilling at the present writing, is the Frederick & Campbell well on the Wise farm, about one mile east of the Markham. On the last day of April, there were eleven new rigs, one old one and 70 wells drilling, making a total of 82 in the Thorn Creek district. The report made thirty days prior to that date showed 26 rigs up and buildiug, and 57 wells drilling, a total of 83. The report made by the scouts May 9, showed eight rigs up and building, and 68 wells drilling. The 25 wells finished in April, had a new production on the last day of that month of 3,203 barrels.

A letter from Washington, dated May 10, states that the Morning Star Oil Co. is drilling at a depth of 125 feet. The Gantz well was being cleaned out, having bridged over at a depth of 2148 feet, 48 feet from the bottom.

APRIL OPERATIONS.

THE ENTIRE REGION,—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN APRIL, 1885.

Allegany Field.

Lot.	Owner.	Barrels.
Alma, lot 55,	W P Decker	5
do lot 86,	Shirley & Hochstetter, No. 3	5
do lot 107,	do No. 6	5
Wirt, lot 34,	W A Wilcox & Co	2
Bolivar, lot 7 (Vosburg Farm)	W & J Duke	10
do lot 63,	do N O Levens	3
Clarksville, lot 20 (McDougal Farm)	Clarksville Oil Co No 1	5
do lot 20,	(Ernhart Farm) Ackerly & Samuels	5
do lot 9,	Whipple Bros	8
Miscellaneous.		
Near Binghamton, N. Y.,	Mayer & Co	dry

Wells completed	10
Production	48
Dry	1

Bradford Field.

Stinson,	Asher Brown	No 10	10
Pike J T	Jones,	No 10	12
do do		No 11	12
C B & H,	Bulger & Dana	No 1	8
Snyder, C	Sharp & Co		8
Snyder,	Foxburg Oil Co		5
Stevens,	Burns Bros		8
Gale,	Mallory & Co		5
Bingham, lot 570,	Union Oil Co	No 16	30
do 570,	do	No 17	40
do 578,	do	No 20	75
do 577,	do	No 23	40
do 578,	do	No 24	75
do 547,	do	No 25	40
do 579,	do	No 27	20
do 583,	Associated Producers Co	No 38	40
do 592,	Associated Producers Co	No 39	15
do 590,	Associated Producers Co	No 42	20
do 557,	Rose & Byron,	No 2	10
do 546,	C P Byron	No 1	20
do 594,	Bayne & Fuller	No 5	10
do 593,	T J Melvin	No 5	10
do 577,	Rose & McLeod	No 1	50
do 28,	Kinzua Union Oil Co.	No 56	15

Wells completed	24
Production	578
Dry	0

Warren and Forest.

Glade and other Towns.

Fuller Farm, Kinzua,	Jas. Parker & Co	No 1	6
Wm. Harris, Kinzua,	Morrison, Best & Co		10
M Harris,	Fogel & Brown		dry
Hoop, Fred Hue &	Co		dry
Glade, 5,535,	(French Farm) Beardslee		dry
Chambers,	Pur. Anchor Oil Co	No 21	5
Cobham,	Union Oil Co	No 22	10
Wardwell,	Benedict & Robinson,	No 15	5
do	do	No 16	5
McWilliams,	Pickett & Co	No 2	8
Nesmith,	Ben Nesmith		3
McKain,	Becker, Saner & Kuhn		3

Wells completed	12
Production	55
Dry	3

Clarendon.

Stonehill,	Hazelton & Bell	No 3	5
55,	Union Oil Co	No 24	5
463,	Steelsmith & Co	No 3	6
464,	King & Magee	No 1	5
466,	J Smith & Son	No 8	6
499,	E O'Donnell	No 2	6
526,	E O Emerson	No 7	8
527,	Goal Bros	No 3	7
527,	Coal Bros		8
561,	F H Rockwell & Co	No 13	8
557,	Dyson & Louden	No 7	6

Wells completed	11
Production	70
Dry	0

Tiona.

75,	Fertig & Henne	No 2	4
110,	do	No 17	6
110,	do	No 18	6
110,	do	No 19	8
110,	do	No 20	7
110,	do	No 21	6
165,	Whitehill & Co	No 7	10
109,	J R Kuhn & Co	No 7	8
163,	Emerson & Joy		gas
201,	Wesley Chambers	No 3	8
201,	do	No 4	6
202,	E O Emerson		3
204,	W J Wood & Co	No 4	6
204,	Booth, Bovaird & Seyfang	No 10	8
204,	do do	No 11	7
205,	H B Beatty & Co	No 9	5
240,	Cochran Bros	No 1	6
241,	F W Wringer	No 5	7
241,	L Kraeer & Co	No 4	8
241,	L Kraeer & Co	No 5	8

Wells	10
Production	127
Dry	1

Balltown.

3194,	Porcupine Oil Co	No 32	20
3195,	Proper Reserve Oil Co	No 7	5

Wells	2
Production	25

Lower Country.

Venango.

O'Lain,	Playford & Co		2
McCormack,	T. H. Phinney		5
Kauffman,	A P Dale		5
Mt Hope (Herrington farm)	I H Sheppard & Co		dry
do do	Jacob Sheasley		12
do do	Berringer & Graham		dry
Pastorius,	C. F. Lufkin & Co		6

Vicinity Emlenton.

Ritchie,	Eben Crawford		20
Shippen,	Emlenton Gas Co		gas

Wells	9
Production	50
Dry	3

Clarion.

Amsler,	Amsler Bros		5
Deitrick,	A. Barber		5
Berlin,	Patterson & Leedon		20
Wagner,	Jacob Hahu		10
Connor,	Morrow,		dry
Fisher,	J. B. Smithman		3
do	do		12

Wells	7
Production	55
Dry	1

Butler and Armstrong.

Pontuis,	Hunter & Cummings	No 3	15
Black,	Black & Co		5
Neff,	Phillips Bros	No 2	100
Crouse	do	No 2	75
Muenster,	do	No 6	100
Witt,	Hite & Co	No 2	50
do	Greenle & Russell		10
Christina	Hasler, H. W. Christie		15
Archibald	Kelly, J. Adams & Co		35
Thos.	Kelly, Conley, Butler & Manifold	No 1	10
Kelly Heirs,	W. J. McKee	No 3	30

Wells	11
Production	445
Dry	

Thorn Creek.

Marshall,	Fisher Oil Co	No 7	35
do	do	No 16	680
do	U. S. Oil Co	No 2	—
do	Armitrong, Boyd & Semple	No 3	—
Mushrush,	Phillips Bros	No 7	140
do	do	No 8	17
do	do	No 9	18
do	do	No 10	—
Dunlap,	do	No 1	dry
Girard,	do	No 1	63
do	I. E. Ackerly	No 1	—
do	do	No 2	740
Scully,	Associated Producer	No 9	65
Kennedy.	do	No 8	275
do	do	No 11	220
do	do	No 13	—
Sutton & Scully	do	No 18	245
do	do	No 19	95
Bredin,	do	No 15	—
Ranken, K. H.	McBride & Campbell		dry
Mangell, M.	Murphy	No 3	—
do	do	No 5	575
Crawford,	James Gillespie & Co		dry
Noel, H. H.	Stow		20
Bartley,	Christie Bros	No 5 estimate	15

Wells	25
Production	3203
Dry	3

DRILLING WELLS, RIGS UP AND BUILDING APRIL 30, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
2,	Coast Oil Co No 31	400
2,	do No 32 (old)	rig
3,	Coyle (old)	rig
4,	McEnroe & Elliott (shut down)	drilling
4,	Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12,	do No 10 (old)	rig
50,	The Union Oil Co No 8 (old)	rig
50,	do do No 9 (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Pickering & Smith	600
1,	do	2 rigs
2,	Pennell Bros	500
1,	Applebee Bros No 3 (old)	rig

New rigs	2
Old rigs and shut down	11
Drilling	3
Total	16

Alma.

1,	Phillips Bros No 14 (shut down)	300
1,	do No 15 (old)	rig
23,	Vance & Horton (old)	3 rigs
24,	New Milford Oil Co old)	2 rigs
24,	W F Jones (old)	rig
26,	Willetts & Elliott	rig
37,	Perrin & Young	300
37,	do	rig
37,	do	2 rigs bldg
51,	Sawyer & Co (old)	rig
67,	W P Decker No 2	rig bldg
87,	Shirley & Hochstetter No 1	400
87,	do No 2	rig bldg
107,	do No 7	500
107,	do No 8	rig
86,	Finnegan & Co No 1	drilling
86,	do No 2	rig
86,	do No 3	rig
91,	Torry & Pirdun	500
88,	Duke & Co (old)	rig
142,	Dean & Smith No 5 (old)	rig
140,	J Rauber No 3	rig
91,	W F Coast & Co No 2	400
79,	Kansas Oil Co No 1	rig bldg
120,	McCalmont Oil Co No 4	rig
120,	do do No 5	rig

New rigs	13
Old rigs and shut down	11
Wells drilling	6
Total	30

Wirt.

1,	McCoy & Whitcomb	700
14,	Lester & Co. (old)	rig
33,	Miner, Wellman & Fuller (old)	rig
52,	Allegany Gas Co (old)	rig
34,	Skinner farm, H H French & Co	drilling
do	do	rig
6.	Jordan farm, Calkins & Peters	500

New rigs	1
Old rigs	3
Wells drilling	3
Total	7

Bolivar.

4,	(Cole tract) Matson & Caldron (old)	rig
7,	Coast Oil Co No 20	drilling
7,	do No 42 (old)	rig
7,	do No 44	rig
7,	do No 45	600
8,	Anderson Bros & Bryson No 1	200
8,	do do No 2	rig bldg
15,	John Fay	sand
15,	Sawyer & Co (old)	rig
23,	F C Streeter & Co No 7 (old)	rig
23,	Irvin & Morgan No 5 (old)	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	do do No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig

New rigs	2
Old rigs	8
Drilling	4
Total	14

Clarksville.

9,	Heuston & Brecht No 4 (old)	rig
9,	Merritt (old)	rig
13,	Warner & Gleason	drilling
20,	Clarksville Oil Co No 2	drilling
20,	Love & Penzer	drilling
20,	do	rig
36,	Unknown	rig bldg

New rigs	2
Old rigs	2
Wells drilling	3
Total	7

Genesee.

8, I Willets (to the top of sand . . . . drilling
8, do (to the top of sand) . drilling
8, do No 60 . . . . . rig
14, Merwin (old) . . . . . rig
21, Empire Gas Co No 3 (old) . . . . rig
22, I Willets No 13 (old) . . . . . rig
22, do No 14 (old) . . . . . rig
22, do No 15 (old) . . . . . rig
22, do (old) . . . . . rig
23, Hughes & Coughlin (old) . . . . . rig
23, Emery Oil Co No 16 (old) . . . . . rig
23, do do No 17 (old) . . . . . rig
Champlain, Emery Oil Co No 8 (old) . rig
29, William Cranston (old) . . . . . rig
31, H L McMullan & Co . . . . . drilling
38, S E Young (old) . . . . . rig
38, Empire Gas Co (old) . . . . . rig

New rigs 1
Old rigs and wells shut down . 15
Drilling 1
Total. 17

Miscellaneous.

Gains, Peck & Tait (old) . . . . . rig
Bradford Co, Pa, New Era Co (shut down) 1200
do near Weston's (Carroll & Co) rig
do do (Boston Oil Co) rig
Wells, N Y, Carroll & Co (old) . . . . rig
Chemung Co,, N. Y., Ira Sawyer . . . 1200
Saratoga Co., N Y, Saratoga Oil and Gas Co . . . . . drilling

New rigs 2
Old rigs and shut down 3
Wells drilling 2
Total 7

Bradford Field.

East and West Branches.

Paton, McClure & Co (old) . . . . . rig
Clark, McCray Bros (old). . . . . rig
Willis, do No 29 (shut down) 550
Glass, Barnsdall Bros (old) . . . . . rig
Dent, P C L & P Co No 64 (old) . . . rig
do do do No 65 (old) . . . rig
do Whitney & Wheeler No 40 (old) rig
Mill lot, Whitney & Wheeler No 9 (old) rig
Paul, James Amm & Co No 5 (old) . . rig
Wilson, West Branch Oil Co No 11 (old) rig
Cary, Duncan No 4 (old) . . . . . rig
Mack, Fisher Brothers No 19 (old) . . rig
Kelly, A K Darrow (shut down) . . . sand
Bowen lands, Phillips & Co 1500
Hinchey, McMurray Bros & Co No 6 . (old) rig
Rutherford, J T Jones No 31 1100
do do No 32 800
do ko No 33 . . . . . rig
Dikeman, Whitney & Wheeler No 26 . rig
J Buchanan, Bettell & Co 700
Warrant 3,908, Tnknown . . . . . rig bldg
Mack, Columbia Oil Co . . . . . rig bldg

Quintuple.

25, O H Strong (old) . . . . . rig
44, J W Humphrey (old) . . . . . rig
107, J S Wilson (old) . . . . . rig bldg
220, Clark, Stearns & Co (old) . . . . rig
260, E. T. Howes (old) . . . . . rig

New rigs 5
Old rigs and shut down 20
Drilling 4
Total 29

Kendall Creek.

Melvin, P C L & P Co No 85 (old) . . rig
do do do No 86 (old) . . rig
do do do No 87 (old) . . rig
Borden, Urquhart & Lavens (old) . . rig
Morton, Dan Clark No 3 (old) . . . . rig
do do do No 4 (old). . . . . rig
Willets, I Willets (old). . . . . rig
Dunham, Williams & Kilbury No 7 . . drilling

New rigs 0
Old rigs 7
Drilling 1
Total 8

Foster Brook.

E T Co, Boyne, Penny & Coleman No 11 (old) rig
do F L Blackmarr & Post No 5(old) rig
do Utter & Co (old) . . . . . rig
C B & H, Watson Oil Co No 33 (old) . rig
do do do No 34 (old) . rig
do Juter & Yager (old) . . . . . rig
do P W Bulger & Dana No 2 . . rig
do R Y Mitchell (old) . . . . . rig
Snyder, C Sharp & Co 100
S L Wilson, W A Wade No 4 . . . . . drilling

New Rigs 1
Old Rigs and shut down 7
Wells drilling 2
Total 10

Four Mile.

Van Campen Wm M Brown (old) . . . rig
do Merrill & Perrin (old) . . rig
do Geo Van Campen & Sons No 21 (old) . . . . . rig
do Geo Van Campen & Sons No 22 (old) . . . . . rig
do Gregg & Stearns No 6 . 800
do do No 7 . rig bldg
do Wm Doe No 7 700
do do No 8 . . . . . rig
Waters, Griffin & Howard No 2 (old) . rig
C B & H, James Smith (old) . . . . . rig

New rigs 2
Old rigs and shut down 6
Drilling. 2
Total. 10

Indian Creek.

Barse, Union Oil Co No 36 (old) . . . . rig
North Branch, J D Downing & Co (old) 2 rigs
Hamlin, Miller & Odell No 4 (old) . . rig
Zimmer, Shear Bros (old) . . . . . rig
Dodge, do No 8 500
do do No 9 . . . . . rig
Weston, J L McKinney & Co . . . . . drilling
do do . . . . . rig
Morse, Morse & Brown (old) . . . . rig
Miles Loop, Union Oil Co No 25 (old) rig
Keating, Forest Oil Co No 48 1000

New rigs 2
Old rigs 7
Drilling 3
Total 12

Cole Creek.

Rew, Capt E Frawley (old) . . . . . rig
Warrant 2263, Union Oil Co No 6 (old) rig
do 2263, do No 7 (old) rig
do lot 495 do No 3 (old) rig
do lot 570 do No 18, 1500
do lot 578 do No 21, (old) rig
do lot 578 do No 28, 1500
do lot 578 do No 29, rig
do lot 577 do No 31, 300
do lot 560 do No 30, rig
do lot 576 do No 32, rig
do lot 576 do No 33, rig
do lot 537 do No 34, rig
do lot 577 do No 35, rig
do lot 578 do No 36, 200
do lot 577 do No 37, 100
do lot 576 do No 38, rig bldg
do lot 548 F pur do No 34, 100
do lot 536 do do No 32, rig bldg
do lot 418 Wolf Run No 25, 200
do lot 425 do No 26, 100
do lot 418 do No 27, rig bldg
do lot 425 do No 28, rig bldg
do lot 591 Associated Producers No 41, sand
do lot 589 do No 43, 1500
do lot 591 do No 44, 800
do lot 566 do No 46, rig
do lot 583 do No 47, 1800
do lot 584 do No 48, rig
do lot 585 do No 49, rig
do lot 568 do No 50, rig
do lot 567 Rose, Byron & McLeod (old) . . . rig
do lot 577 Rose & McLeod No 2, 100
do lot 590 Bayne & Fuller No 3 400
do lot 590 do No 6, 800
do lot 591 T J Melvin No 6, 400
do lot 565 John McKeown No 1, 800
do lot 565 do No 2, rig
do lot 565 do No 3, rig

New rigs 16
Old rigs 6
Drilling 18
Total 40

Kinzua.

Bingham, lot 20, Union Oil Co No 57 sand
do lot 84, Wm Fitzgibbons rig
do lot 136, P I & W C Kennedy rig
do Emery Oil Co No 40, sand
Niles Tract, Chapin & Co No 5, 500
do do No 6, rig bldg

New rigs 3
Old rigs 0
Drilling 3
Total 6

Miscellaneous.

Warrant 3732, Sugar Run, Mead, McKinney & Co . sand
do 3732, do John Best & Co 300
do 5448, Potter Co., Pa., Riley & Emerson 1200

New rigs 1
Old rigs 0
Drilling 2
Total 3

Warren and Forest.

Glade and Other Towns.

Wardwell, Benedict & Robinson No 17 200
do do No 18 rig
Cobham, Union Oil Co No 23 . . . . . rig
Elk township, Schur & Robins (old) . rig
Irvine, Brown Bros No 5 . . . . . rig
Branch, S C Rhodes No 4 . . . . . rig bldg
Eichoff, Eichoff . . . . . rig
Verbeck, C W H Verbeck (old) . . . . rig
Clark, S M Coggswell & Co No 3 . . . drilling
Eddy, Butts, Harley & Waugeman . . drilling
Rankin, Fred Hue & Co . . . . . drilling
Nesmith, Best & Co (old) . . . . . rig
Shultz, Shultz & Co . . . . . drilling
Near Cemetery, S A Logan . . . . . sand
Rogers, Barnsdall Brothers No 14 (old) rig
do do No 15 (old) rig
do do No 16 (old) rig
Morrison Run, Eldred . . . . . rig

Kinzua Village.

Whitcomb, Sherman & Wells . . . . . sand
Harris, Duke, Shirley, C Hostetter No 1 400
do do No 2 300
do do No 3 rig bldg
do Fred Hue & Co No 1 . . . . . rig
English, Parker, White & Co No 3 . . rig bldg
Marsh, Dr Van Scoy . . . . . rig bld

New rigs 10
Old rigs 6
Drilling 9
Total 25

Clarendon.

Stonehill, Hazeltine & Bell No 4 . . . rig bldg
35 and 53, A J Thompson & Co No 1 . 600
do do No 2 . rig
do do No 8 . 500
54, D Beatty & Son No 36 (old) . . . rig
78 do do (old) . . . . . 2 rigs
466, King & Magee No 2 . . . . . sand
464, Columbia Oil Co . . . . . drilling
466, J Smith & Son No 8 . . . . . rig
499, Munroe & Finnegan No 4 . . . . drilling
499 do do No 5 . . . . . rig
499, E. O'Donnell No 3 200
464, Columbia Oil Co . . . . . rig
79, Rogers & Co 300
80, Thayer & Crosby 200
107, Soult & Dower 500
526, E O Emerson No 8 500
526, do No 8 . . . . . rig
106, Golden & Co (old) . . . . . rig
107, Windsor Bros . . . . . drilling
107, do . . . . . rig
108, C H Filkins (old) . . . . . rig
495, W W Ballard (old) . . . . . rig
527, Goal Bros . . . . . drilling
527, do (old) . . . . . 2 rig
583, F. H Rockwell & Co No 14 . . . 300
583, do No 15 (old) . rig
583, do No 16 (old) . rig
557, Dyson & Lowden No 8 . . . . . drilling
590, Clark & Co . . . . . drilling

New rigs 7
Old rigs 11
Drilling. 14
Total 32

Tiona.

59, Fertig & Henne (shut down) . . . sand
75, do (shut down) . . . sand
104, do No 1 . . . . . rig
110, do No 22 600
110, do No 23 300
110, do No 24 . . . . . rig
110, do No 25 . . . . . rig
110, do No 26 . . . . . rig

109, J S Patterson No 31 (old) . . . . . rig
109, J. R. Kuhn & Co No 8 . . . . . rig
109, Schonblom & Townsend No 8 (old) rig
164, Hill & Powell (old) . . . . . rig
164, do (old) . . . . . rig
164, do . . . . . rig
165, Whitehill & Co No 8 . . . . . rig
161, Helm & Mealey No 10 . . . . . drilling
161, Charles Dunham No 5 . . . . . rig
201. Wesley Chambers No 5 . . . . . rig
201, do No 6 . . . . . rig
202, E O Emerson . . . . . rig
202, do . . . . . rig
202, Mandell Oil Co No 1 . . . . . rig
204, W J Wood & Co No 5 200
204, do No 6 . . . . . rig
204, Booth, Bovaird & Seyfang No 12 . 200
204, do No 13 . rig
204, do No 14 . rig
205, H B Beatty & Co No 10 300
205, do No 11 . . . . . rig
205, Bright & Co . . . . . rig
240, Cochran Bros No 2 100
241, F. W. Winger No 6 200
241, do No 7 . . . . . rig
241, L Kraeer & Co No 3 . . . . . rig
241, do No 6 . . . . . sand
241, do No 7 800
241, do No 8 . . . . . rig
321, do No 9 . . . . . rig
241, do No 10 . . . . . rig bldg

New rigs 21
Old rigs and shut down 7
Drilling 11
Total 39

Cooper District.

3193, Melvin, Walker & Co . . . . . drilling
404, M. Murphy (old) . . . . . rig
404, Ray & Co . . . . . rig
437, McCalmont Oil Co No 18 600
437, do No 19 . . . . rig
339, do No 23 420

New rigs 1
Old rigs 1
Drilling 3
Total 5

Balltown.

3194, Porcupine Oil Co No 21 (old) . . rig
3194, do No 33 200
—— Proper Reserve Oil Co . . . . . rig bldg
4821, Balltown Oil Co No 23 (old) . . . rig
4821, do do No 24 (old) . . . rig
4821, do do No 25 (old) . . . rig
4792, Howe Oil Co No 17 (old) . . . . rig
4792, do do No 18 (old) . . . . rig
5215, May, Kelly & Grandin No 29 . . . sand

New rigs 1
Old rigs 6
Drilling 2
Total 9

Miscellaneous.

Wetmore, H. Landsrath . . . . . rig
Warren, Grand Valley, W W Hague . drilling
Cherry Grove, 576, Doc Heath & Co. . 100
Forest, Hancock & Kennedy . . . . . rig
Elk Co., Rolf, W W White . . . . . rig
New rigs 3
Old rigs 0
Drilling 2
Total 5

Lower Country

Venango.

McCalmont, S P McCalmont . . . . . sand
do do . . . . . drilling
do do . . . . . rig
Kauffman, Kauffman & Keigler No 2 . rig
Columbia, Columbia Farm Oil Co . . . 600
Keith, I H Shipherd . . . . . drilling
Diamond, J B Smithman . . . . . rig bldg
do A P Dale . . . . . rig bldg
Oberley, Oberley 150
Mt. Hope, Phila. & Boston, Shultz & Bartlett . . 800
do. J. Salock, I H Shepherd & Co No 1 . . 200
do John Corner, do No 1 . . rig bldg
Echols, Judd, Lewis & Co 150
Lechtin, Roess Bros 750
Bullion, Cross farm, Rumsey & Riddell 900
do Crawford, Hoffman & Co . . . 700
do do D W Ault & Co . . rig bldg
Rockland. Lee & Co . . . . . sand
Pin Oak, J B Smithman No 3 . . . . sand
do do . . . . . rig
McPherson, Oil City Fuel Supply Co . 400

Vicinity Emlenton.

Robinson, Gorman (old) . . . . . rig
Captain Grant, J P Crawford . . . . . drilling
Jew farm, Jamison & Co . . . . . rig
Hupp, Sherry & McKnight No 3 . . . rig bldg
Royal, Flynn Bros . . . . . rig
Cross, S. Phillips 500
D M Crawford, Daniels & Co . . . . . rig
A Middleton, Pattorf Bros . . . . . rig

New Rigs 12
Old Rigs 1
Wells drilling 16
Total 29

Clarion.

Deitrick, Yonker & Deitrick 800
Frederick, White, Booth & Gifford . . 400
Young, Watson & Caldren No 2 . . . 900
do do No 3 . . . rig
do J H Koch . . . . . rig
do McKeever, Mallory & Co . . . . drilling
do Wood & McIntyre 400
do Kale & Co . . . . . rig
Fisher, J. B Smithman No 3 . . . . . rig
Stretman, Young Farm Oil Co No 1 . . 500
do Pitch Pine Oil Co 800
Shippen, Patterson & Leedom . . . . rig bldg
do Fertig & Ilenne . . . . . rig bldg
Berlin, Patterson & Leedom . . . . . rig bldg
Levi Kale, Staley & McDonald . . . . rig
Callerman, Frank Fertig . . . . . rig
Kennemuth, Moore, Howe & Co . . . 500
Miller, Sheasley & Shaffer 500
Widow Heeter, M E Hess 200
West Edenburg, Sam Kribs & Simpson (for gas) . . rig
Mehrten, John Mehrten . . . . . rig
Panton, Panton (old) . . . . . rig
Goughler, M R Martin (for gas) . . . 800
Smith, Jacob Hahn (old) . . . . . rig
Tole, do (old) . . . . . rig
Kiser, William Becker . . . . . drilling
Young, McClellan, Crawford & Co . . rig bldg

New rigs 12
Old rigs 3
Drilling 12
Total 27

Butler and Armstrong—Various Sections.

Hermann Station, Bott, Slone & Co (old) rig bldg
do Eichenlaub, Fisher Oil Co (old) . . 100
Michael, Hunter & Cummings 200
McCray do No 2 . . rig bldg
Leithold, do No 1 . . 200
Neff, Phillips Bros No 3 200
do do No 4 . . . . . rig
Crouse, do No 3 . . . . . rig
Muenster, do No 7 . . . . . rig
Oswald, do 1400
Witt, Hite & Co No 3 600
do H McGuire & Co, No 6 1100
Mulligan, do No 7 800
Balph, Clark & Foster . . . . . sand
Widow Martin, R K Sutton & Sheffield 800
Sang, Dennison & Hartman 200
R S Millinger, Columbia Oil Co . . . . rig
East St Joe, Boyle & Co . . . . . rig
Abner Kelley, McKissick 800
do Pres Black & Co . . . . rig
Archibald Kelly, Hooks Bros No 4 (old) . rig bldg
Daubenspeck, Wheeler & Story . . . sand
Kelly Heirs, J W McKee No 4 500
John Kelly, Wm. Edmunds 300
do Kelly & Edmonds . . . . rig
D P Kelly, Thos McNeese & Smith . . 500
do Brawley Bros . . . . rig
Fletcher, W J McKee . . . . . rig
Wm Story, Bovaird & Beatty . . . . . rig bldg
W P Black, Meldren & Devitt . . . . rig bldg
Thos Cannon, Short & Co . . . . . rig bldg
Robert Campbell, Argyle Oil Co . . . rig
Griffin, Millerstown Oil Co . . . . . drilling
Hilliards, McFarland 1400
Callery Station, Pittsburg Parties (old) rig
Bredin, Gibson & Gahagan 600
Gibble, J Cramer & Co 600
Bilzert, Osborne & Co . . . . . drilling
Seibert, Seibert Bros No 2 800
M Seibert, R Jennings (old) . . . . . rig
R Jennings, do No 3 (old) . . . rig
Kramer, W A Dennison (old) . . . . . rig bldg
Vicinity Craigtown, Garret, Gray & Bruce . . 600
Galloway, on Semicolon Run, Christie & Hays . . 1000
Campbell, J W McFarland . . . . . rig
Clark, Geasy & Co . . . . . drilling
Wm Kelley Rigney & Co . . . . . rig bldg
Mathew Bicket, Pittsburg Parties . . . rig bldg
Downing. German Oil Co . . . . . rig bldg
Petersville, (McKinney farm) M L Lock. wood & Co . . 900
If, Chas Neeley & Co . . . . . rig bldg
Hoffman, McTamany & Co . . . . . sand

New rigs 19
Old rigs 6
Wells drilling 27
Total 52

Thorn Creek.

Marshall, Fisher Oil Co., No 11 . . . . sand
do do No 15 (fishing) sand
do do No 18 1150
do do No 19 100
Mushrush, Phillips Bros No 11 1300
Lavery, do No 1 1500
do do No 2 (fishing) 900
do do No 3 750
do do No 4 300
do Markham & Co No 2 400
I. Wise, Phillips Bros No 1 900
Ben Lavery do No 1 . . . . . rig
do do No 2 200
Troutman, Smith & Co . . . . . rig bldg
Kennedy, Assoc'd Producers Co No 17 . sand
do do No 22 sand
Buhl, do No 7 (fishing) sand
do do No 14 sand
do do No 16 (fishing) 1000
Sutton & Scully do No 20 sand
Buhl, do No 21 1500
do do No 23 1000
do do No 4 200
do do No 25 200
do do No 26 300
Mangel, Murphy No 2 1500
do do No 4 . . . . . sand
do do No 6 500
do Murphy & Co 50 acre Pur Lot Div 1 Murphy & Co 1500
do Sub Div 3, Markham & Co . . 400
do do 6, McBride & Co . . 1000
do 50 acre Pur Sub Div 7 McBride & Co . . 600
do do Div 8 McClung & Co . . 400
do do Div 9 Markham & Co . 1000
do do Div 10 Murphy & Co . . 1000
do do Div 12 Barnsdall & Co . . sand
do do Div 13 Murphy & Co . . 300
do do Div 15 Murphy & Co . . 250
do do Div 10 do . . rig bldg
do do Div 18 do . . rig
do K H McBride & Campbell No 1 1400
do do No 2 800
do Stow Lease Sub Div 2, Connors & Fishel 1500
do do do Div 3, Connors, Fishel & Starr 1000
do do Sub Div 4, McBride & Co . 1300
do do Sub Div 5, I E Ackerly & Co . 1000
do do Sub Div 6, I E Ackerly & Co . 600
do Thompson & Bolard No 1 . . sand
do do No 2 . . 1400
do do No 3 . . 900
do do No 4 . . 600
do Greenlee & McIntyre No 1 . . sand
do do No 2 . . 700
do do No 3 . . 900
do do No 4 . . 600
Wise, McBride & Campbell 200
Girard, I E Ackerly 200
do do . . . . . rig bldg
Noel, H H Stow No 2 150
do do No 3 50
do do No 4 . . . . . rig bldg
McLaughlin, Clark & Sutton No 2 . . 1300
do Snee & Co 300
do Bennett & Co 300
Morrison Heirs, Reep & Sutton 1500
Morrison, C. W. Turner (old) . . . . rig
J E Maharg, O M Russell (old) . . . 400
Hartman, H C Zeigler & Co 620
do do 200
do Stewart & Co 550
Chris Mangel, do 600
Renfrew, Ireland & Hughes . . . . . rig
do Christie Bros No 2 . . . . . sand
do Renfrew & White No 1 . . . 600
Troutman, Smith & Co . . . . . rig
Henderson Heirs, Johnson Bros No 3 . rig
McElwaine, Lappe & Co . . . . . rig
I Wise, Frederick & Campbell . . . . sand
Reibold, Painter Bros . . . . . sand
Kennedy, Christie Bros No 1 . . . . . sand
do do No 2 1200
Mates, Kifer & Co . . . . . rig bldg

New rigs 11
Old rigs 1
Drilling 70
Total 82

FIELD OPERATIONS SUMMARIZED.

Wells Completed, With the Estimated Production on the Last Day of the Month.

ALLEGANY.

Division of Field.	APRIL, 1885. Wells.	Prod'n.	Dry.	MARCH, 1885. Wells.	Prod'n.	Dry.
Scio	0	0	0	0	0	0
Alma	3	15	0	1	5	0
Wirt	1	2	0	3	15	0
Bolivar	2	13	0	1	5	0
Clarksville	3	18	0	1	0	1
Genesee	0	0	0	0	0	0
Miscellaneous	1	0	1	1	0	1
Total	10	48	1	7	25	2

BRADFORD FIELD.

Division of Field.	APRIL 1885. Wells.	Prod'n.	Dry.	MARCH, 1885. Wells.	Prod'n.	Dry.
E. & W. Branches	3	34	0	6	75	0
Kendall Creek	0	0	0	1	10	0
Foster Brook	3	21	0	0	0	0
Four Mile	1	8	0	2	24	0
Indian&Meeks Cr'ks	1	5	0	0	0	0
Cole Creek	15	495	0	11	356	0
Kinzua	1	15	0	3	23	0
Total	24	578	0	23	488	0

WARREN AND FOREST.

District.	APRIL. Wells.	Prod'n.	Dry.	MARCH. Wells.	Prod'n.	Dry.
Glade	12	55	3	4	19	1
Clarendon	11	70	0	6	28	1
Tiona	20	127	1	10	65	0
Cooper	0	0	0	2	16	0
Balltown	2	25	0	2	50	0
Miscellaneous	0	0	0	1	0	1
Total	45	277	4	25	178	3

LOWER COUNTRY.

District.	APRIL. Wells.	Prod'n.	Dry.	MARCH. Wells.	Prod'n.	Dry.
Venango	9	50	3	7	31	2
Clarion	7	55	1	4	41	1
Butler and Armstrong	36	3648	3	31	2754	9
Total	52	3753	7	42	2826	12

GRAND SUMMARY.

District.	APRIL. Wells.	Prod'n.	Dry.	MARCH. Wells.	Prod'n.	Dry.
Allegany	10	48	1	7	25	2
Bradford	24	578	0	23	488	0
Warren and Forest	45	277	4	25	178	3
Lower Field	52	3753	7	42	2826	12
April Total	131	4656	12	97	3517	17
March Total	97	3517	17			
Difference	34	1139	5			

Rigs Up and Building.—Wells Drilling.

ALLEGANY FIELD.

Division of Field	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Scio	2	11	3	16	0	10	1	11
Alma	13	11	6	30	3	14	2	19
Wirt	1	3	3	7	4	3	2	9
Bolivar	2	8	4	14	0	10	3	13
Clarksville	2	2	3	7	1	2	3	6
Genesee	1	15	1	17	0	16	0	16
Miscellaneous	2	3	2	7	0	4	2	6
Total	23	53	22	98	8	59	13	80

BRADFORD FIELD.

Division of Field.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.
E. & W. Branches	5	20	4	29	1	21	2	24
Kendall Creek	0	7	1	8	0	7	0	7
Foster Brook	1	7	2	10	1	7	3	11
Four Mile	2	6	2	10	2	7	2	11
Indian Creek	2	7	3	12	1	8	1	10
Cole Creek	16	6	18	40	10	8	13	31
Kinzua	3	0	3	6	2	0	2	4
Miscellaneous	1	0	2	3	0	0	2	2
Total	30	53	35	118	17	58	25	101

WARREN AND FOREST.

Division of Field.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Glade	10	6	9	25	11	10	8	29
Clarendon	7	11	14	32	12	9	5	26
Tiona	21	7	11	39	15	9	8	32
Cooper	1	1	3	5	2	1	1	4
Balltown	1	6	2	9	1	6	2	9
Miscellaneous	3	0	2	5	0	0	1	1
Total	43	31	41	115	41	35	25	101

LOWER COUNTRY.

Division of Field.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.	MAR. 31, 1885 New Rigs	Old Rigs.	Drilling.	Total.
Venango	12	1	16	29	8	2	10	20
Clarion	12	3	12	27	11	2	8	21
Butler & Armstrong	30	7	97	134	46	3	75	124
Total	54	11	125	190	65	7	93	165

GRAND SUMMARY.

Field.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.	MAR. 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Allegany	23	53	22	98	8	59	13	80
Bradford	30	53	35	118	17	58	25	100
Warren & Forest	43	31	41	115	41	35	25	101
Lower Country	54	11	125	190	65	7	93	165
Total April 30, '85	150	148	223	521	131	159	156	446
Total Mar. 31	131	159	156	446				
Difference	19	11	67	75				

OIL OPERATIONS IN WASHINGTON COUNTY.

Experimental work is progressing quietly but steadily in the Washington county oil field, thirty-five mile south-west of Pittsburgh. On the first of the month the Thayer Oil Co. were drilling on the Farley farm, at a depth of 200 feet. The Morning Star Oil Co. had a rig up on the Smith farm, two miles north-east of the Gantz well. Pew & Emerson had completed a rig on the Barre farm, and the Niagara Oil Co. had one up on the Montgomery farm. The Gantz Oil Co. are starting a rig on the Wilson lot, a half mile south of their No. 1 well, which is still producing about fifteen barrels per day. A number of parties are toying with work in the field to hold leases until test wells, now under way and others which are projected, are completed. On the 22d of April the well at Waynesburg was drilling in sand at a depth of 2742 feet, when the cable broke.

The attention of the readers of the AGE is called to the cut of the extensive works of the Climax Manufacturing Co. of Corry Pa, under the direction of Mr. Battles, a gentleman familiar with the wants of the oil trade. They are manufacturing oil engines on a large scale and at a cost in keeping with the ruling price of crude. Through their general agents, Boggs & Curtis of Bradford, they are furnishing the trade with a complete pumping engine for $160. The Climax rig irons which they make are used for the heavy work of the Thorn Creek Field.

STOCKS ABROAD.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

Stocks Afloat and Ashore.	Apl. 25. 1885. Barrels.	March 28, 1885. Barrels.
London	132,272	104,839
Trieste	. . .	21,682
Seven Continental Ports	906,032	931,615
Total Stocks afloat and ashore	1,038,304	1,058,136
Decrease in Stocks since March 28	19,832	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1885. The shipments represent the amount of oil going to the interior of Europe from the seaports.

STOCKS IN FOREIGN PORTS APRIL 25, 1885.

	Stocks W'k end'g Apl. 25.		Stocks Afloat W'k end'g Apl. 25.		Loading. W'k end'g Apl. 25.		Grand Total Stocks Afloat & Loading.		Receipts. From July 1.		Shipments From July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	279,587	64,806	. . .	35,466	. . .	32,020	279,587	132,272	457,077	492,873	526,026	528,313
Trieste	41 860	. . .	9,230	. . .	. . .	. . .	51,090	. . .	199,900	. . .	145,717	. . .
Bremen	718,103	326,946	78,709	79,343	46,500	35,500	843,312	441,789	674,580	469.461	851,104	939,096
Hamburg	123,755	75,245	78,192	42,374	45,400	70,300	247,347	187,919	702,796	844,590	912,148	941,710
Antwerp	116,321	66,602	46,729	29,456	. . .	36,000	163,050	132,058	737,252	893,020	831,309	952,388
Rotterdam	44,532	33,601	12,183	12,815	20,000	21,800	76,715	68,216	171,227	192,596	203,479	216,940
Amsterdam	40,519	44,158	14,814	6,330	15,700	. . .	71,033	50,488	238,570	222,067	234,894	220,919
Stettin	19,231	21,426	11,754	. . .	28,200	. . .	59,185	21,426	191,800	226,068	241,000	246,260
Danzig	3,581	4,136	. . .	. . .	. . .	. . .	3,581	4,136	65,632	70,011	73,802	77,986
Total	1,066,042	572,114	242,381	170,318	155,800	163,600	1,464,233	906,032	2,781,947	2,917,813	3,347,736	3,595,299

	1882.	1883.	1884.	1885.
Total stocks exclusive Trieste	1,094,917	1,439,639	1,345,629	636,920
Total afloat, exclusive Trieste	271,561	232,159	242,381	205,784
Total loading, exclusive Danzig, London and Trieste	191,300	282,500	155.800	195,600
Total	1,557,778	1,954,298	1,743,810	1,038,304
Afloat and loading for direct Continental Ports	53,700	23,500	. . .	25,900
" " " Baltic Sea, exclusive Stettin and Danzig	19,700	22,800	21,600	18,800
" " " English harbors, exclusive London	142,500	121,700	. . .	33,500
Grand Total	1,773,678	2,122,298	1,765,410	1,116,504

OFFICIAL STATEMENT, EXPORTS OF PETROLEUM, MARCH, 1885.

BY JOSEPH NIMMO, JR., CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., MAY 1, 1885.

CUSTOMS DISTRICT.	MINERAL CRUDE.		NAPHTHAS.		ILLUMINATING.		LUBRICATING AND PARAFINE OIL.		PESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollras.	Gallons.	Dollars.	Gallons.	Dollars.
Boston&Charlestown Mass	. . . .	. . . .	. . . .	. . . .	416,592	47,241	121,231	19,854	. . . .	. . . .	537,8 3	67,095
New York, N. Y.,	3,604,470	266,547	528,891	42,190	26,193,875	2,287,787	1,062,972	189,635	791,112	48,790	32,181,320	2,831,949
Philadelphia, Pa.,	694,961	52,462	107,890	7,605	5,838,525	478,362	181,195	21,298	. . . .	. . . .	6,822,571	559,727
Baltimore, Md.,	. . . .	. . . .	. . . .	. . . .	1,122,434	90,960	2,500	1,875	. . . .	. . . .	1,124,934	92,835
San Francisco, Cal.	. . . .	. . . .	1,200	196	17,190	3,965	200	120	. . . .	. . . .	18,590	4,281
All other districts	. . . .	. . . .	1,150	129	147,409	19,745	686	715	1,008	147	150,253	20,736
Total for M'ch, 1885	4,299,431	319,009	639,131	50,120	33,736,025	2,928,060	1,368,784	233,497	792,120	48,937	40,835,491	3,579,623
Total for M'ch, 1884	4,972,692	397,029	173,721	26,948	26,769,411	2,641,517	957,622	202,864	354,186	23,894	33,227,632	3,292,252
Total for 9 months ended M'ch 31, 1885	63,031,356	4 575,538	12,057,694	989,902	339,719,086	29,787,951	9,600,912	1 937,582	4,247,838	238,913	428,656,886	37.528,986
Total for 9 months ended M'ch 31, 1884	50,162,041	3 912,228	12,965.274	892,136	308,690,879	28,262,794	7,939,720	1 653,018	3,953,376	259,642	383,711,290	34,979,818

CRUDE QUOTATIONS FOR APRIL, 1885.

Day of Month and Week.		Bradford.				Oil City.				New York.				Pittsburgh.			
		Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.
W	1	81	81¼	80¾	80¾	81	81¼	80¾	80¾	81⅛	81¼	80⅞	80¾	81	81¼	80⅞	80⅞
T	2	81	81¼	80⅞	81	81	81¼	80⅞	81	81	81¼	80⅞	80⅞	81	81¼	81	81
F	3		HOLIDAY.				HOLIDAY.				HOLIDAY.				HOLIDAY.		
S	4	80¼	80⅜	78½	78¾	80	80¼	78¾	78¾	80¼	80¼	78¾	78¾	80	80¼	78¾	78⅞
M	6	78½	78⅝	77⅝	77⅞	78½	78½	77¾	77⅞	78¼	78¾	77¾	78⅛	78⅜	78½	77¾	78
T	7	77⅞	78¾	77⅞	78⅜	78	78⅞	78	78⅝	77¾	78⅞	77¾	78½	78	78⅞	78	78⅜
W	8	77¾	77¾	77⅛	77⅜	77¾	77¾	77⅛	77⅜	77¾	78	77¼	77⅜	77⅝	77¾	77¼	77⅜
T	9	77¾	79¼	77¾	78⅜	77½	79⅜	77½	78⅛	77½	79⅜	77½	78⅛	77¾	79⅜	77¾	78¼
F	10	77⅞	78⅜	77¾	77⅞	78⅛	78½	77¾	77⅞	78¼	78⅜	77⅞	78	78¼	78½	77⅞	77⅞
S	11	77⅜	79	77⅜	78⅜	77½	78⅞	77¼	78⅜	77½	79	77⅜	78⅜	77¼	79	77¼	78⅜
M	13	78¾	79½	78⅝	78⅝	78½	79½	78½	78¾	78¾	79½	78⅝	78⅞	78¾	79½	78¾	78¾
T	14	78¾	79	78⅛	78¾	79	79	78⅛	78¾	79	79	78¼	78¾	79	79	78⅛	78¾
W	15	78¾	79	78¼	78¾	78⅝	79	78⅜	78⅝	78⅝	79	78⅜	78¾	78¾	78⅞	78⅜	78¾
T	16	78¾	78¾	77⅞	78	78¾	78¾	77⅞	78	78¼	78¾	78	78	78¾	78¾	78	78
F	17	77⅞	78	77⅜	77⅝	78	78	77⅜	77¾	77⅞	77⅞	77½	77½	77¾	77⅞	77½	77⅝
S	18	77⅜	79½	77¼	78¾	77¼	79½	77¼	78⅞	77¼	79⅜	77¼	78¾	77¾	79¼	77¼	78¾
M	20	79⅛	79⅛	78⅜	78⅝	79	79⅛	78⅜	78½	79¼	79¼	78⅜	78½	79	79	78½	78½
T	21	78½	78⅝	77⅞	77¾	78⅝	78⅝	77⅝	77¾	78½	78⅝	77¾	77¾	78½	78⅝	77⅝	77¾
W	22	77¾	78¼	77¼	78⅛	77¾	78¼	77⅜	78⅛	77¾	78¼	77½	78⅛	77¾	78¼	77½	78⅛
T	23	78⅞	79⅜	78⅝	78⅞	78½	79⅜	78½	78⅞	79	79⅜	78⅝	78⅞	78¾	79⅜	78⅝	78⅞
F	24	78¾	78¾	78⅜	78⅝	79	79	78⅜	78½	78¾	78¾	78⅛	78⅝	78½	79	78⅜	78⅞
S	25	78¾	79	78⅜	79	78½	79⅛	78½	78⅞	78½	79	78½	78⅞	78½	79	78½	78⅞
M	27	79⅛	80½	79	79⅞	79	80⅝	79	80	79	80½	79	80	79⅛	80½	79	79⅞
T	28	80⅜	80⅞	80	80⅛	80⅛	81	79⅞	80⅛	80¼	81	80	80	80⅜	81	80	80⅛
W	29	80¼	80⅝	79¾	80⅜	80¼	80½	79⅞	80⅜	80¼	80⅝	79⅞	80½	80⅜	80⅜	79¾	80⅜
T	30	81	81⅜	80⅜	81	80¾	81½	80⅜	81	81	81½	80⅜	81	80¾	81¼	80½	81

STOCKS IN THE REGION END OF EACH MONTH FOR 15 YEARS.

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
January	340,154	537,751	532,971	1,183,728	1,948,919	4,104,703	3,603,203	2,983,231
February	342,390	587,021	579,793	1,265,373	2,283,032	4,496,751	3,734,835	3,335,770
March	351,474	642,000	662,497	1,244,657	2,648,210	4,592,364	3,753,513	3,394,011
April	328,609	771,000	877,832	1,178,643	2,623,534	4,537,843	3,940,109	3,423,675
May	329,908	605,000	950,803	1,192,541	2,594,286	4,552,672	4,032,126	3,304,302
June	351,168	554,000	1,010,302	1,324,493	2,701,625	4,502,896	4,847,301	3,046,389
July	321,840	511,220	990,229	1,433,620	2,279,479	4,386,720	3,500,612	3,162,574
August	356,908	530,146	997,126	1,513,890	2,932,444	4,223,397	3,182,160	2,914,499
September	419,477	541,300	951,410	1,521,185	2,758,594	3,812,945	3,011,004	2,549,460
October	473,896	495,102	914,423	1,452,777	3,134,902	3,672,101	3,180,983	2,545,423
November	576,014	502,960	886,907	1,493,875	3,449,845	3,701,235	3,142,397	2,474,490
December	544,626	532,000	1,084,423	1,625,157	3,705,639	3,672,077	2,816,870	3,086,972

	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
January	3,342,090	5,259,289	8,984,341	17,989,168	25,788,071	34,952,645	35,834,930	36,693,112
February	3,361,650	5,734,155	9,405,240	18,971,376	26,329,098	34,514,919	36,047,915	36,316,806
March	4,218,518	6,234,842	9,834,457	20,048,772	27,255,326	35,594,680	36,206,626	36,067,905
April	4,640,852	6,638,691	11,001,304	20,771,342	27,969,884	35,500,859	38,152,546	36,025,379
May	4,908,450	6,838,762	11,737,890	22,108,640	28,833,715	35,642,245	38,475,528	
June	4,983,145	7,104,347	12,720,220	23,192,207	29,402,854	35,985,935	38,665,848	
July	5,064,158	7,193,137	13,606,369	23,765,140	30,254,302	36,371,939	38,983,911	
August	4,653,525	7,278,023	14,383,551	24,645,792	31,229,863	36,102,886	39,086,004	
September	4,653,525	7,493,752	15 249,661	25,052,082	32,066,007	35,752,718	38,740,722	
October	4,296,769	7,692,990	15,678.127	25,224,534	32,891,916	35,617,037	38,123,746	
November	4,364,909	8,138,767	16,402,431	25,302,647	33,439,450	35,495,236	37,857,193	
December	4,506,492	8,552,256	17,145,104	25,761,051	34,335,144	35,715,565	36,872,892	

AMOUNT and VALUE EXPORTS PETROLEUM and PETROLEUM PRODUCTS FROM THE UNITED STATES, 1881-1885.

	1881.		1882.		1883.		1884.		1885.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
January	18,458,954	2,066,227	30,248,954	2,759,087	38,490,505	3,506,953	33,490,679	3,285,783	37,209,280	3,332,004
February	24,197,966	2,524,055	28.753,191	2,680,861	29,209,791	2,689,721	31,459,563	3,147,812	34,242,679	3,009,460
March	32,121,969	3,285,066	40,378,457	3,753,706	36,309,101	3,423,136	33,227,632	3,292,252	40,835,491	3,579,623
April	28,008,421	2,752,729	47,273,230	4,186,955	34,614,996	3,172,492	33,261,885	3,292,426		
May	35,025,896	3,361,155	44,452,727	4,168,930	61,067,399	5,412,128	43,785,070	4,072,761		
June	61,966,601	5,553,268	54,066,294	4,669,564	47,923,069	4,305,086	52,910,587	4,758,243		
July	51,019,204	4,684,801	60,914,823	5,128,313	47,699,387	4,179,237	52,470,018	4,643,001		
August	66,280,465	5,962,949	44,011,074	3,599,440	49,580,807	4,229,292	40,498,120	4,113,850		
September	51,398,719	4,762,711	41,954,730	3,410,955	55,385,030	4,773,490	57,369,034	4,961,345		
October	54,244,846	5,062,724	45,400,263	4,004,179	48,326,250	4,233,210	60,234,667	5,168,653		
November	46,587,631	4,399,988	35,849,016	3,308,120	46,956,205	4,212,238	50,646,893	4,383,921		
December	45,250,872	4,140,430	30,201,639	2,952,914	37,574,408	3,625,056	49,132,009	4,335,372		
Total	514,561,544	48,556,103	503,501,128	44,623,024	532,736,948	47,762,039	538,486,157	49,455,419		

AVERAGE DAILY RUNS BY DISTRICTS, 1882—85.

	Bradford	Allegany	Cherry Grove	Cooper	Balltown	Wardwell	Baldridge	All Other Fields	Total for Entire Country.
January 1882	55,006	7,222	....	....	....	....	....	11,541	73,769
February	63,313	9,512	....	....	....	....	....	10,722	83,547
March	58,078	14,760	....	....	....	....	....	10,894	83,732
April	53,108	17,622	....	....	....	....	....	10,395	81,129
May	55,955	19,522	218	....	....	....	....	11,262	86,957
June	56,016	22,765	3,037	....	....	....	....	13.968	95,785
July	52,456	23,884	8,655	....	....	....	....	19,311	104,306
August	49,711	20,814	24,315	....	....	....	....	10,985	105,826
September	46,585	16,387	23,002	....	....	....	....	10,567	96,545
October	42,107	19,964	9,363	120	....	....	....	14,286	85,841
November	41,404	16.993	4,886	294	....	....	....	10,012	74,580
December	39,580	14,020	3,180	559	87	....	....	14,993	72,419
January 1883	36,847	14,106	3,313	1,632	334	....	....	8,893	65,125
February	38,481	13,154	2,954	1,475	332	....	....	8,812	65,208
March	37,754	12,619	2,706	1,737	368	....	....	9,220	64,404
April	38,810	13,742	2,604	3,802	840	....	....	9,409	69,207
May	39,039	13,793	2,207	3,829	952	....	....	9,625	69,445
June	38,614	13,499	2,215	4,199	1,961	....	....	9,955	70,443
July	36,489	12,381	1,891	3,467	1,944	....	....	9,456	65,628
August	37,165	12,743	1,935	3,166	3,078	....	....	10,790	68,877
September	35,894	12,358	1,612	3,200	3,723	....	....	9,423	66,210
October	35,654	12,757	1,312	3,314	4,298	....	....	10,314	67,649
November	34,516	12,332	1,090	3,251	3,807	....	....	10,285	65,281
December	32,650	11,752	1,061	2,876	3,766	....	....	10,725	62,830
January 1884	31,020	11,018	767	2,908	2,808	....	....	9,657	58,178
February	33,987	12,025	968	3,743	2,816	....	....	11,034	64,573
March	33,049	11,777	1,001	4,631	2,813	....	....	11,319	64,590
April	34,370	12,261	1,039	4,229	2,399	475	844	10,176	65,793
May	34,946	12,193	968	3,468	2,260	1,015	1,061	10,777	66,688
June	35,701	11,672	845	2,985	2,250	2,042	969	10,886	67,350
July	34,718	11,114	533	2,476	2,471	4,277	889	10,224	66,702
August	33,782	10,384	665	2,046	2,189	6,483	843	10.604	66,996
September	33,449	9,989	653	2,155	2,115	4,056	2,644	10,891	65,952
October	31,500	8,802	446	1,811	1,781	2,201	6,034	10,489	63,064
November	29,552	8,642	423	1,302	1,401	1,346	9,493	9,592	61.751
December	30,632	8,193	407	1,246	1,189	979	8,730	10,367	61,743
January 1885	27,254	7,442	360	1,214	810	977	6,199	9,034	53,290
February	27,480	7,696	327	987	910	663	7,349	9,564	54,976
March	26,833	7,342	373	867	954	605	7,239	9,885	54,098
April	31,492	7,738	299	1,114	775	527	9,333	9,084	60,362

APRIL PRODUCTION REPORT.

Reports from 6,022 Bradford wells, showed an average decrease of four and eight-tenths of a barrel to the well, during April.

Time.	No. Wells.	Gross Stocks.	Average per Well.
May 1, 1885	6,022	335,744	55.7
April 1, 1885	6,004	363,243	60.5
Difference	18	27,499	4.8

The number of wells in the Bradford field connected with the pipe lines on the 1st of May is estimated at 13,400. Estimating the entire Bradford region on the basis of four and eight-tenths barrels decrease, the total decrease in stocks at wells during April, was 64,320 barrels, a daily average of 2,144 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for April is as follows:

	Barrels.
Average Daily Pipe Line Runs	31,492
Average Daily decrease of Stocks at Wells	2,144
Bradford's April production, est.	29,348
do March do do	26,144
Average daily increase	3,204

This represents an average increase of 3,204 barrels a day as compared with the March estimate.

THE ALLEGANY FIELD.

The stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per Well.
May 1, 1885	1,148	47,027	40.9
April 1, 1885	1,139	51,752	45.4
Difference	9	4,725	4.5

The wells from which reports were received had an average decrease of four and five-tenths barrels to the well. With 3,794 wells in the field on the first of May, these figures give a total decrease for the field of 17,073 barrels, or an average decrease of 569 barrels per diem. Subtracting this amount from the average daily pipe line runs, 7,738, the remainder, 7,169, will represent Allegany's daily production during April. The March average was 7,342 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells. April 1.	No. Wells. May 1.	Average per Well. April 1.	Average perWell May 1.
Clarendon & Tiona	117	125	47	51
Cherry Grove	22	22	89	108
Cooper District	142	142	94	65
Lower Country	118	130	128	126
Miscellaneous	136	135	121	106

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for April and March is as follows:

Field.	April Barrels.	March Barrels.
Allegany	7,162	7,342
Bradford	29,348	26,444
Outside runs	21,053	19,923
Total	57,563	53,709

The above figures show an increase in the production of 3,854 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885. No production reports of the field were published during the first six months of 1883, and the pipe line runs of Bradford and Allegany, are considered sufficient in the absence of more reliable data:

	Bradford		Allegany		Outside Runs		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
Jan.	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
Feb.	32,378	38,481	11,607	13,154	18,561	13,573	62,546	65,208
Mar.	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	339,22	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
Aug.	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
Sept.	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
Oct.	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
Nov.	31,789	35,026	8,642	12,678	23,557	18,433	63,988	66,137
Dec.	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
Jan.	28,675	31,806	8,260	11,264	18,594	16140	55,529	59,240
Feb.	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,596
M'ch	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	29,348	32,442	7,162	11,848	21,053	19,162	57,563	63,452

The Baldridge and Thorn Creek runs were increased 2,094 barrels a day in April. Cooper runs increased 247 barrels during the same time and stocks in wooden tanks declined 29 barrels to the well. Cherry Grove, Balltown and Wardwell decreased at the rate of 331 barrels a day.

The production of the Bradford field for April is 3,204 barrels a day more than in March and 3,094 barrels behind the April output of last year. Allegany falls short of the April average of 1884 by 4,686 barrels, and the entire region shows a decrease of 5,889 barrels per diem from the figures furnished by the production report for April, one year ago.

E. I. AGNEW of New Castle Pa., died at that place, on Sunday, May 3d, after a lingering illness. He was sixty years of age, and had long been identified with the widely known oil producing firm of the Phillips Brothers. He was appointed postmaster of his native place by President Garfield, and held the office up to within a few weeks of his death.

OIL BROKERS.

A. B. WALKER. G. T. LOWE.

WALKER & LOWE,

PETROLEUM BROKERS,

BRADFORD, PA.

C. R. HUNTLEY. E. P. WHITCOMB.

HUNTLEY & WHITCOMB,

PETROLEUM BROKERS,

BRADFORD, PA.,

Offer to their patrons every facility for the purchase and sale of Petroleum on Margins.

Correspondence Solicited. Correspondents in all other Exchanges.

GEO. P. HUKILL. ROD. G. COLLINS.

HUKILL & COLLINS,

PETROLEUM BROKERS,

Special attention given to Buyers' and Sellers' Options.
Oil Exchange,

OIL CITY, PA.

H. A. MARLIN. A. J. STEPHENSON.

MARLIN & STEPHENSON,

PETROLEUM BROKERS,

BRADFORD AND NEW YORK.

TUCKER, TRACY & CO.,

Stock, Produce and Petroleum Brokers,

BRADFORD OIL EXCHANGE.

Oil bought and sold on commission and carried on margins.
Orders Solicited.

GEO. W. MACMULLEN,

PETROLEUM BROKER,

BRADFORD OIL EXCHANGE,

BRADFORD, PA.

P. O. Box 1490.

MAPS! MAPS!!

THE PUBLISHERS OF "THE AGE" MAKE

MAPS OF ALL THE OIL FIELDS

Freshened to Date of Issue.

SEND FOR PRICE LIST.

Address THE PETROLEUM AGE, Bradford, Pa.

DO YOU WANT A DOG?

If so, send for DOG BUYERS' GUIDE, containing colored plates, 100 engravings of different breeds, prices they are worth, and where to buy them. Also, cuts of Dog Furnishing Goods of all kinds. Directions for Training Dogs and Breeding Ferrets. Mailed for 15 cts.

ASSOCIATED FANCIERS,
237 S. 8th St. Phila'a.

JOHN CONLEY,

MANUFACTURER OF

IRON, GAS AND STORAGE TANKS

—AND—

GASOMETERS.

REPAIRING PROMPTLY ATTENDED TO

Shop: Erie R. R., near Washington St., Bradford, Pa.

P. O. Box 1367.

T. A. MATSDAIRA,

CITY ENGINEER,

All Kinds of Surveying and Leveling Done. Makes a Specialty of

Fine Draughting.

OFFICE IN THE CITY BUILDING, BRADFORD, PA.

PETROLEUM REAL ESTATE CO.

C. D. ANGELL,

OFFICE: 59 MAIN ST., BRADFORD, PA.

Buy, sell and lease all kinds of Oil Lands and City Property, Negotiate Contracts and do a General Commission Business. ☞Information carefully given. Address Lock Box 1275

BRADFORD NATIONAL BANK!

—OF—

BRADFORD, PENN'A.

Capital, $100.000. **Surplus, $100.000.**

O. F. SCHONBLOM, Pres't. P. T. KENNEDY, Vice Pres't.
T. H. TOMLINSON, Cashier. C. A. MITCHELL, Asst. Cashier.

DIRECTORS:

P. T. Kennedy, W. C. Kennedy, R. J. Straight.
O. F. Schonblom, H. F. Whiting.

TRANSACT A GENERAL BANKING BUSINESS.

Make collections; sell drafts on Europe; buy and sell United States bonds.

☞Prompt attention given to all business entrusted to us at the Lowest Rates of Charges.

BOOK OF CAGE BIRDS!

120 pages, 150 illustrations, beautiful colored plate. Treatment and breeding of all kinds cage birds. For pleasure AND PROFIT. Diseases and their cure. How to build and stock an Aviary. All about Parrots. Prices of all kinds birds, cages, etc. Mailed for 15 cents.

ASSOCIATED FANCIERS,
237 So. Eight Street, Philadelphia.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., JUNE, 1885. No. 5

A BY-GONE CHARACTER.

There is one type of oil region character being buried by time. He and his familiar old carriage seem to have rolled away in the dust of years. Or mayhap the iron horse frightened his angular steeds so that they remain beyond the petroleum belt.

Driving through the counties of Armstrong, Butler and Clarion, now so attractive to oil men, your mind is oftentimes retrospective. Though the plowshare once more cuts the soil, the old roadways can be traced over many fields. Belts of yellow clay mark the line followed by the bold hackmen who once extorted money from passengers to and from the out-lying towns. Do you hear that chorus of unmusical voices shouting Petrolia, Karns City, Fairview, Millerstown, Greece City, Angelica, Modoc, St. Joe, Carbon Centre, Great Leather and so on? And so you remember all. The mud bespattered carriage; the swaying oil cloth cover; the fat rum-rosy cheeked driver and those horses.

Then the dash over the splendid summer roads winding over beautiful hills, through splendid valleys and forests of sturdy trees. Or the drag when the horses floundered in frost, made roads too horrible to dwell upon. In those days of the seventies the scenes were everywhere busy along the lower country belts. To say that oil ranged between one and four dollars seems like writing a mockery. And if you encounter a hackman of those times he will dazzle you with stories of the freely flowing wealth. He is a living volume of the people and developments of the lower fields. He can accurately locate the towns along the belts running through these counties, name the prominent producers, fairly estimate their wealth, subsequent fortune and reveal a history of the more important events.

After being refreshed with a schooner of beer he will recite the chapter relating to hackmen, fast horses and their owners. How the narrow gauge roads, especially in the McKean field, killed his business he tells in a voice subdued with financial emotion. But you must patiently hear him as he sketches himself when he cleared ten dollars a day. Unconsciously he sits as if mounted on his high seat and the foot resting on the chair seems to be forcing down brakes. And as he relates some thrilling experience his great bowled pipe smokes furiously, the pressure on the chair increases, everything is in a painful strain; then you feel the brake is being released. You hear the passengers praise the driver's skill and the averted accident. Then you whirl up to a hotel at the "front," involuntarily reach for your purse, mingle with the busy oil throng—and so your memory runs along the roads of by-gone days.

VAN WINKLE.

PETROLEUM IN FOREIGN LANDS.

A correspondent of Bradstreets', writing from Berlin, Germany, under date of May 13, has the following to say in regard to the German petroleum trade and the new tariff:

The last number of the periodical *Das Deutsche Handels Arachio*, published by the German Ministry for Home Affairs, prints a letter from Munich which runs as follows: "Some Russian petroleum has been imported, (into Munich) but no more is to be introduced; for, though the quality was good it was not always the same, nor was the delivery reliable enough, and until important agencies are established, guaranteeing an efficient organization and steadiness of supply, the competition of American petroleum will not be vanquished."

Another report from Breslau, in the same official periodical, says: "Half the petroleum required (in Breslau) comes from Russia, but where small differences of price are not decisive, the American product is preferred."

Both reports from Munich and Breslau confirm what I wrote to Bradstreet's at the opening of this year—that though Russian petroleum has not a great market in Germany as yet, it may obtain it in time.

Besides these two reports there are more confirmations of my opinion. According to the final reports of German foreign trade in 1884, just published officially, the importation of refined petroleum into Germany was 9,250,894 cwt. (against 7,406,098 cwt. in 1883); of which there came from Russia 155,942 cwt. The remaining 9,094,952 cwt. have been almost ex-

clusively, directly or indirectly, imported from the United States. Russian importation in 1884 was, therefore, only 1.7 per cent. of the American. And even this small result has only been attained by the assistance of the German-Russian Naphtha Company, established in Berlin, which, according to their report lately published, sold last year 128,647 cwt. of refined oil and petroleum products. The official publication of commercial statistics in the German empire shows, however, a considerable increase of Russian petroleum exportation during the first quarter of this year (relatively), which is all the more noteworthy as the entire importation of petroleum during this time has been less than during the same period last year. From January 1 to March 31 this year 2,660,220 cwt. of petroleum have been imported (against 2,750,738 cwt. in 1884), of which 90,584 cwt. came from Russia (against 38,420 cwt. in 1884). The whole importation during the first quarter of this year shows a diminution of 90,518 cwt., but that from Russia shows an increase of 52,164 cwt., that is twofold and a third of last year's. Though the Russian importation only amounts to 3½ per cent. of the American, this increase of more than double attracts attention. It is impossible to say whether the augmentation will continue at the same or at a higher rate during the whole year. From information obtained through a friend just returned from a business journey in the Caucasus (Russian petroleum producing region), I learn the expectations of the Russian petroleum exporters are very great. He has, at the same time, brought home the conviction that the means of transport from Baku to Batoum are still insufficient, and, considering Russian management, it is difficult to say when they may be improved. American petroleum refiners have, therefore, nothing to fear at present, but in future they will, of course, have to take Russian competition into account.

The Chancellor's projected duty of 5 marks ($1 ¼) per cwt. upon petroleum barrels as coopers' ware seems to have really been given up. During the lengthy discussions in the Reichstag concerning the new tariff bill this duty has been mentioned neither by any member of the House nor government, though there was good opportunity for doing so when the liberal party brought in a motion to reduce the petroleum duty by one-half, from 3 to 1½ marks (75 to 37½ cents) per cwt., which was rejected by the conservative-clerical majority.

RUSSIAN PETROLEUM INDUSTRY.

By Boverton Redwood, F. I. C., F. C. S., Member of the Committee of the London Section Society of Chemical Industry.

Anyone whose experience of oil producing territory has been gained in the United States, cannot fail to be impressed on first visiting the neighborhood of Baku, with the very limited extent of the area within which practically, the whole of the crude oil is being collected. The oil field from which the Baku refiners are supplied, is not in fact more than 3½ miles square, and on this small tract of land there are flowing wells or fountains which apparently could supply the whole world with lamp oil and lubricating oil. It must not however, be assumed that the oil bearing lands of Russia are of small area. On the contrary, it has been estimated that petroleum deposits underlie no less than 14,000 square miles and admitting that this estimate is not based on very reliable data, there is I believe, no reason to doubt that something like 1000 or 1200 square miles of the Apsheron peninsula may be fairly regarded as more or less productive oil territory. No systematized attempts have yet been made to explore this large field and strictly define its limits, for the reason that more than sufficient oil is obtained within the narrow limits I have referred to. The locality of the existing wells is termed the Balakhani or Balakhani-Saboontchi district, and it is distant about eight miles from the town of Baku, at an elevation of something less than 200 feet above sea level. A few miles away at Surakhani, is another group of wells on the site of the prehistoric Sacred Fires; but these wells are of minor importance. Petroleum has also been obtained in quantity at Kouban, about 60 miles inland from Novorossisk, on the shores of the Black Sea, and evidence of the extension of the oil field in a northwesterly direction has been furnished by the result of trial borings in the Crimea. In the neigborhood of Tiflis, and in a large number of other places throughout the Apsheron peninsula, there are also petroleum pits and natural outflows of petroleum, some of which have been locally utilized. While, as I have said, the petroleum field appears to extend into the Crimea (though it is possible that there may be a succession of deposits rather than an actual belt), there is evidence of its continuous extension from Baku across the Caspian Sea to Trans-Caspian territory. Near the Baku coast the surface of the sea is frequently covered with oil,

which has floated to the surface; and in still weather the petroleum gas may be ignited. The island of Tcheleken, immediately opposite, and distant about 200 miles, contains apparently immense deposits of ozokerit. I hoped to have been able to visit this interesting place, but the Russian Government has, for political reasons, prohibited Englishmen from landing there; and in Russia the rigid passport registration system makes every movement of the traveler known to the authorities. On the mainland, in the Trans-Caspian territory, there is stated to be abundance of petroleum, but except to supply fuel for the railway this source is not utilized. The existence of the petroleum deposits of Baku has probably been known for 2500 years, for it is believed that the Persian fire-worshippers frequented Surakhani from the time of Zoroaster, who lived not later than 600 B. C. Gibbon states that in A. D. 624, the Emperor Heraclius wintered at the mouth of the river Kura, 70 miles south of Baku, and that his "soldiers extinguished the fire and destroyed the temples of the magi." Marco Polo, who wrote in the thirteenth century, is supposed to have referred to the petroleum of Baku when he stated that there was in this neighborhood an abundant spring of oil not good for food, but good to burn, or to anoint camels that had the mange; and he added that people came a great distance to fetch it. In Jonas Hanway's time (the middle of the eighteenth century), Indians were worshipping at the Surakhani temple, as many as 50 pilgrims congregating there at one time. Hanway described the eternal fire as a flame, in color and gentleness not unlike a lamp that burns with spirit, only more pure, and sometimes rising to a height of eight feet, when the wind blows. I have on the table a photograph of this temple as I recently saw it. In the centre of a walled quadrangle stands a solidly built pillared and roofed rostrum of white stone, surmounted by a small trident. Around the boundary walls, with entrances from the quadrangle, are stone cells, which bear evidence of having been used as dwellings. Within these cells, and in the courtyard, there are many fissures in the ground, and upon applying a lighted match to some of these, I had no difficulty in igniting the gas, which burned with a flame of so little luminosity that in the bright daylight it was difficult to trace its outline. In some places channels of stone had been constructed to convey the gas. At the time of my visit there were neither officiating priests nor devotees, but a bell that was used to summon the faithful, still remains suspended. Returning to the historical aspect of the subject, as to which I have only a very few more words to say, I may mention that Tcheleken Island was referred to by Hanway, under the name of Naphtonia or Cherriken, as being peopled, when he visited it in 1743, by about 36 families, who had 24 large boats, owned several wells of naphtha, and carried on a brisk trade in selling the oil to Persians, Turcomans, etc. Colonel Yule states that the quantity of naphtha collected from the springs about Baku was, in 1819, estimated at 241,000 poods (more than one million gallons), the greater part of which went to Persia. Crude petroleum is still burned as a source of light in some parts of Russia, in earthenware lamps of primitive form, one of which I have on the table.

Very little is known concerning the geology of the Southern Russian oil fields; and experience gained in petroleum well boring in the United States, does not appear to be of much value in the Apsheron peninsula. Instead of the oil being found, as it is in America, in well defined strata of sand rock, it appears to exist in the Caucasus for the most part in separate cells or pockets. Professor Abich says the rocks can be assigned to the miocene formation, of which there are traces of two layers, above these being tertiary clays and sands, but the whole region has evidently been affected by volcanic action, and the strata has been broken up. Not far from Baku is an extinct mud volcano, from the sides of which petroleum exudes. The limestone found in the neighborhood, much of which is so soft that it is squared for building with axes, is full of shells of molluscs; and this particular stone and petroleum seem to go together in the Caucasus. I remember, when visiting the Bradford oil field in the United States, having a somewhat similar stone (a specimen of which is on the table) pointed out to me as a surface indication of petroleum. I do not propose to say much on the present occasion in reference to the various theories put forward as to the origin of petroleum. It is well known that while some are disposed to consider petroleum as a product of the destructive distillation of coal, many more look upon it as derived from the remains of marine animals. In addition, we have Professor Mendelejeff's ingenious theory that petroleum results from the action of water at a high temperature, and under great pressure, upon compounds of iron, manganese and carbon; and I would refer those who are interested

in the question to this distinguished chemist's essay, entitled—"L'Origine du Petrole," published in the *Revue Scientifique*, of November 3, 1877.

[TO BE CONTINUED.]

NOTES ON NATURAL GAS.

THE CITY OF ERIE, PA.

The shale or slate which underlies the city of Erie and the wide stretch of comparatively level country along the lake, is more or less charged with gas. At the water's edge it is found at a depth of about 400 feet, and the distance below the surface increases with that traveled from the lake up the gently rising slope. Black & Germer, the Erie City Iron Works, the Jarecki Manufacturing Company and others have drilled wells for gas in the yards of their manufacturing establishments with varying success. The Reed House, the principal hotel of the city, has two gas wells on its grounds, which furnish it with an amply supply of natural gas for light and heat. The Gas Fuel Co., a chartered corporation. is now in successful operation. The company is made up of Pittsburgh and New York capitalists. Dwight Stone, Jr., is general manager, and W. O. Sutton is superintendent. They have drilled three wells in the western and southwestern parts of the city, which afford an abundance of gas for the present demand. From these wells five and five-eighth pipe has been put down through the streets, where the dwellings are located. Gas in Erie is a cheap luxury. It costs $2.50 for a cook stove and one dollar for a heating-stove during the summer months.

Natural gas is used at the Lake Shore brick yard for burning brick, and is found to reduce the cost of manufacturing.

Congressman Scott has a gas line of his own on his extensive grounds and farms near Erie.

The Jarecki Manufacturing Co. have had one well down in their yard thirteen years.

The Erie County Alms House has enjoyed the comforts of natural gas for fourteen years.

NATURAL GAS FOR CONSUMING PITTSBURGH GARBAGE.

Mr. Smith Agnew's plan for the destruction at night of the city garbage by means of furnaces heated by natural gas, has met with general approval and commendation from all classes of citizens, and ought to be speedily adopted by the Councils of both Pittsburgh and Allegheny. It offers what is believed to be not only the best but the cheapest means of doing away with accumulations which are now either allowed to rot on the streets and alleys and poison the air breathed by the people, or thrown into the rivers to pollute the water consumed by those living at points below the city. Mr. Hartupee, the engineer of the Penn Fuel Company, states that at the present time there is wasted, within a radius of seven miles from the centre of the city, not less than seventy-three millions of feet of natural gas every twenty-four hours. This amount, vast as it is, will be greatly increased during the months of June, July and August, when many of the iron mills, furnaces and glass factories will not be in operation.

The Penn Fuel Company have offered to supply the city free of charge, with all the gas necessary for the destruction of the city garbage, provided the city construct suitable furnaces.

The local Board of Fire Underwriters at Pittsburgh has adopted the following rates in regard to the government of the use of natural gas in manufacturing establishments :

First. That when gas is to be introduced into any premises, a tank governor or regulator shall be placed as remotely as possible from the building, by which the pressure shall be reduced to not exceeding two pounds.

Second. A safety-valve shall be placed between the governor or regulator and buildings, which will blow off when the pressure exceeds two pounds.

Third. A mercury gauge must be placed inside of buildings to indicate the exact pressure in the pipes.

Fourth. All pipes leading from the regulator and into the mills shall be of as large diameter as possible, and all pipes on entering a building shall be elevated and carried overhead and above all furnaces and boilers.

Fifth. All pipes, valves and fittings shall be carefully inspected when the work is completed, by the Secretary of this Board, before the privilege is given to use natural gas.

The Fire Marshal and Secretary of the Board are required to examine all premises where the use of gas is desired, and where the requirements are complied with, a certificate is issued to the insured to the effect that the arrangements for the use of gas are in accordance with the regulations of the Board. The new rules reduce the maximum pressure of gas a pound below that fixed by the first rules, which were adopted in August last. Up to the 16th of May, 580 certificates had been issued, and there had not been a fire or an accident caused by gas in any establishment that had a certificate.

NATURAL GAS IN ARMSTRONG COUNTY.

Piping of gas from the Pine Run well, to the Apollo Iron Works, at Apollo, Pa., has been completed and turned into the mills Nos. 3 and 4. The pressure of gas on the main registers 15 pounds strong. It is estimated that nine ounces pressure will supply all the gas necessary for running these mills to their full capacity and the saving to the company will be something over $40,000 per year. There is no doubt that this will result in more steady running of the works. The present company have been trying for a number of years to introduce gas into their works. Several wells have been put down, but heretofore without success.

NATURAL GAS SUPPLY FOR OLEAN.

The Cattaraugus Gas Co. was recently organized for the purpose of supplying light and heat to the people of Olean. Dan O'Day, of the National Transit Co., is at the head of the enterprise. This company already have a pipe line running from Clarksville to Olean, and have been selling their surplus supply to the Keystone Gas Co., with whom they have a contract which expires August 1st.

The Keystone Gas Co. (Pew & Emerson) have been furnishing Olean with natural gas for four years. Their principal source of supply has been in the Indian Creek section of the Bradford field, which has been gradually falling off in amount for several years. They recently commenced operations to lay a pipe line from the Clarksville section of the Allegany field, where they own 1,000 acres of gas territory.

The attitude assumed by the Cattaraugus Co. brought the Keystone Gas Co. to a stand-still in their work, notwithstanding a survey for a line had been made and the pipe purchased and some of it received. It was generally reported on the streets of Olean June 10th, that Greek had met Greek, and that an arrangement had been made which would prevent the further laying of gas-pipe by both parties.

THE BRADFORD GAS LIGHT AND HEATING CO. AND ITS COMPETITORS.

As long ago as April 7th, 1879, when scores of gas lights bespoke a wanton waste of God's own illuminator, as they struggled with the gloom of night and lent a weird appearance to the rugged hills, which tower above and beyond the latest and greatest of the cities of oildom, five individuals, viz.: George Rider, of Norwich, N. Y.; John McDougall, of Hornellsville, N. Y.; Andrew J. Avery and Julien T. Williams, of Dunkirk, N. Y.; secured letters patent for the exclusive privilege of making the citizens of Bradford pay more for natural gas than is paid by the inhabitants of any other town or city in the world. The capital stock of the corporation ($20,000) was divided up into 400 shares, and of these shares Captain W. L. Yelton, Frank D. Wood and Richard A. Hemingway, of Bradford, together held five, leaving 79 shares to each of the gentlemen who lived in outside and remote towns. The Bradford Gas Light and Heating Co. continued to monopolize the natural gas business until some time previous to July 23, 1884, for at that time Mr. C. E. Hequembourg makes affidavit that J. S. Fretz, H. G. Cutting, John P. Zane, Puzzy & Co and W. M. Keeler were selling gas to the citizens of Bradford and interfering with what he was pleased to term his "chartered rights."

It appears that the above named gentlemen, who had wells within or contiguous to the city of Bradford, had found a ready sale for their surplus gas at remunerative rates which were usually from 40 to 50 per cent, below those charged by the Bradford Gas Light and Heating Co.

Application was made for an injunction and the case was ably contested before the McKean county court. Judge Olmsted, after a patient hearing, refused to grant an injunction restraining individuals from producing and selling natural gas within the district or locality covered by the charter of the Bradford Gas Light and Heating Co., and the good work of the individuals moved on.

On the 28th of October the plaintiff appealed from Judge Olmsted's decision to the Supreme Court. Elaborate preparations were made by the plaintiff's attorneys, Messrs. Stone & Weil and M. F. Elliot, and for the defendants by N. B. Smiley and G. B. McCalmont, for the trial before the Supreme Court. Before the case was called a decision given by the higher court in that of Hostetter vs. Pew & Emerson, of Pittsburgh, to the effect that the Act of 1874 did not provide for the incorporation of natural gas companies, settled the Bradford case in favor of the defendants, who have since been lengthening their lines and increasing the number of their patrons. The irrepressible Zane lately filed a bond and made a bid for supplying the city buildings of Bradford with natural gas.

The Bradford Gas-Light and Heating Co. have not pumped any gas from their Rixford wells to Bradford for a year. They purchase most of their supply from the National Transit Co., who have a surplus from their large blowers at Wilcox, twenty-five miles south of Bradford.

At the present time Zane & Camp are getting gas from 22 wells on the Little farm and adjacent lands, and before the cold season arrives they expect to have added still more to their gas supply by drilling new wells and the purchasing of gas from a large number of old ones up the West Branch. They are now furnishing gas for 75 stoves and will have winter gas for 150 stoves and 500 lights. They charge $3.00 for cook stoves the year around, and $1.50 for a heating stove from the 1st of May to the 1st of October.

H. G. Cutting has over 100 stoves on his lines and draws gas from about 40 wells.

The other parties supplying gas in different sections of the city are R. H. Gibson, Keeler & Kelly, J. B. Farrel, Vantine & Mallory, J. S. Fretz and Whitney & Wheeler.

Whitney & Wheeler allow people to connect with their tanks for gas, but do not guarantee a supply to their consumers, and reserve the right to shut off the gas at any time they choose. Two of the railroad companies use gas from Whitney & Wheeler's wells in their machine shops.

THE NATURAL GAS BILL.

The Pennsylvania Natural Gas bill passed the Senate unanimously May 21, and received but a single negative vote in the House. This bill provides for the incorporation of natural gas companies, which a late ruling of the courts had declared unprovided for in the Act of 1874.

The bill plainly sets forth the manner in which such companies may be incorporated, and provides rules for the conduct and management of the same. It requires too much space to quote the bill entire, but the portions bearing upon the most interesting points are given below. After giving minute directions as to the notice of intent to incorporate and the filing of the certificates, the act states, "*Provided*, That neither this act nor any other shall be so construed as to confer, authorize or give color to any claim of exclusive right in any corporation howsoever formed dealing in any way for any purpose in natural gas."

SECTION 10. The transportation and supply of natural gas for public consumption is hereby declared to be a public use, and it shall be the duty of corporations organized or provided for under this act to furnish to consumers along their line and within their respective districts natural gas for heat or light, or any other purpose as the corporation may determine. Any or all corporations that is or are now or shall hereafter be engaged in such business shall have the right of eminent domain for the laying of pipe lines for the transportation and distribution of natural gas.

Any association already in existence and actually engaged in the transportation and supply of natural gas, upon accepting the provisions of this act and filing its letters patent or charter (which shall be a surrender of the same) shall thereupon be a body corporate under this act, and entitled to all the privileges, immunities, franchises, etc., that this act confers. And all the property, rights, easements and privileges previously acquired by gift, grant, conveyance, municipal ordinance, or assignments by such association is hereby ratified, approved and confirmed.

MISCELLANEOUS NOTES.

Another gas well has been struck by the Pittsburgh Plate Glass Company at Burchfield farm.

Natural gas has been introduced into the melting-furnaces at Ripley & Co.'s tableware factory at Pittsburgh.

The Fuel Gas Company has under consideration a plan for laying a thirty-six-inch main of cast-iron pipe from the eastern end of Penn avenue along that street to the Point, at Pittsburgh. A number of small lines, connecting with it, will cross the Monongahela River and be led into another thirty-six-inch main, which will be laid up to Jones & Laughlin's mills at South Twenty-seventh street.

D. W. Longwell and J. H. Snow are drilling a well for salt water in Kansas City, Mo. The brine which is to be obtained, will be used for bathing purposes.

A. F. Allen Brown is drilling for gas at Brownsville, Fayette county, Pa. A fair showing of lubricating oil was found at a depth of 600 feet, and salt water was cased off 1000 feet below the surface.

At last accounts the gas well at Bellevernon had a fishing job at a depth of 2000 feet.

A good well was struck May 15 on the Drown Farm, at Hickory, by the Washington Natural Gas Company. The well is down 1,200 feet and the pressure is 250 pounds. The same company struck another large well at Hickory one week ago, and they also own the McGuigan well. They have laid two 10-inch lines from the field, and will start on the third one in a few days.

The Allegany Gas Company, Limited, are laying a five and five-eight inch line from Friendship to Belmont, a distance of about six miles. In Friendship the net price of gas for a cook stove or heating stove, the year around, is $2.70 per

month. The principal stockholders of the Allegany Gas Company, Limited, are J. H. Snow, of Bradford, John M. Finch, of Hornellsville, T. M. Towl, of New York City and Chas. P. Thurston, of Elmira.

The Council of the borough of Edenburg, Pa., have given L. M. Hale, of Emlenton, a permit to lay gas-pipes through the streets of their town, but not an exclusive right. The gas well on the Starr farm, four miles from Edenburg, has been secured by Mr. Hall as the source of supply. The old town, which proudly bore the banner during the Clarion excitement, shows faintly the life of the olden time since the Cogley Run field began to pose for oleaginous attention.

OIL REGION CHRONOLOGY FOR MAY, 1885.

May 1. AGE oil report for April shows 131 wells completed, 12 of which are dry; new production, 4656 barrels; new rigs, 150; old rigs, 148; wells drilling, 223; total field operations, 521. Consolidation of the two New York Exchanges takes effect; rooms at No. 18 Broadway abandoned and Exchange takes up temporary quarters at No. 60 Broadway. The first floor is devoted to petroleum exclusively, and the second to stocks. First act of Consolidated Exchange is to abolish the Oil City "ticker;" membership, 2600. Market opens at 81 and breaks down to 79, closing very weak. Carrying rates, Bradford 60 @ 65; Oil City 45c.; New York 25@40c.; Pittsburgh 50 cents. Good well completed by Lee & Co., on Welsby farm, Rockland township, Venango county, starts about 20 barrels natural.

May 2. Market somewhat steadier under heavy buying of the Fishers. Close at 78⅞ bid. Boiler at Union Oil Co.'s No. 3 drilling well, on McGinnis farm, Macksburg, explodes fatally injuring the tool dresser, William Mercer, of Bradford. A 25-horse power boiler of Whitney & Wheeler, on Tarport road, explodes, damaging several houses close by; no one injured.

May 3. Death of E. I. Agnew, agent for the Phillips Bro.'s, at New Castle, Pa., aged 60 years.

May 4. Wall street heavy sellers of petroleum. Market breaks to 77⅝ and closes weak. Painter well at Reibold, shot without improving it and Bolard & Thompson No. 2, Thorn Creek, showing for light well. Fire at Bush & Denslow Works, Brooklyn; 6000 gallons of oil destroyed. Loss $5,000.

May 5. First sales at 77, which is the lowest point of the day; closes at 77⅝ bid. Act to prevent dealing in speculative commodities on a margin becomes law in Ohio. House Bill No. 33, killed by a vote of 77 to 77 in State Legislature; 101 votes were nececessary to pass it.

May 6. Market shows slight signs of improvement. Case of varioloid quarantined on Tarport road, gives outside newspapers an opportunity to concoct telegraphic reports of small pox in Bradford. Christie No. 1 on Kennedy, shot and is dry. Reep & Sutton, on Morrison heir's, down and dry. Warren Exchange decides to continue business another year.

May 7. Market breaks to 76¾ and closes at 77¼. Weakness of stocks causes depression in petroleum. Bradford sends $45 to the N. Y. World's Bartholdi Pedestal fund. Duke & Shirley No. 1, at Kinzua Village, finds salt water in top sand, which cannot be exhausted. Nine producing wells in Cogley Run district, doing 220 barrels a day. Death of Captain William Hanna, one of the pioneer oil producers of Venango county, at Cincinnati.

May 8. Heavy buying of Patterson, Moore, Tedcastle and others, at New York, causes a spurt to 77¾. Large break in Standard Oil Co.'s pipe line near Shafferstown, Pa. Brief cold snap with slight fall of snow.

May 9. Market buoyant and stronger. S. S. Nichols, of Titusville, dies, aged 91 years. His brother Moody died 12 hours previous at Spring Creek, in Warren county, aged 88 years. Both were veterans of the war of 1812.

May 10. Prothonotary J. M. McElroy's unoccupied residence on Whitney Avenue destroyed by fire. Pat Scanlan, a well known resident of Bradford, died at San Antonio, Texas, aged 31 years

May 11. Market opens at 78⅞, advances to 79½, breaks to 77⅞ and closes at 78⅛.

May 12. Well at Lima, Allen county, Ohio, drilled for gas, reported showing oil in considerable quantity. A lad of 12, named Harper, seriously injured by explosion of glycerine can, at Clarendon. Pat Crowley, section hand on B., N. Y. & P. R. R., killed by a freight train at Warren. Duke & Shirley's two wells at Kinzua Village, through sand and reported dry. Three small buildings destroyed by fire at Tarport.

May 13. McIntyre & Wood well at Cogley Run, in the sand and showing favorably.

May 14. An attempt at arson over Leonard's drug store, on Mechanic street, discovered in time and frustrated.

May 15. McBride & Campbell well on Mangel farm, Thorn Creek, reported light. Bulls

begin to breathe easier and market closes at 79 cents.

May 16. Market closes strong at 80 cents. Second gas well struck on Speechley farm in Pine Grove Township, Venango county. Oil City's supply of gas is increased thereby, sufficiently to cause Fuel Gas Company to make a reduction of 33 per cent. in the price of gas furnished consumers.

May 17. Chaplain McCabe raises $1,000 at Oil City for missionary purposes in twenty minutes. Franklin subscribed $500 the same day.

May 18. Emsworth well near Pittsburgh made the pretext for a break and market closes at 79⅜. Well said to have 1500 feet of oil in the hole. Skidmore, Brown & Co., brokers, No. 40 Broadway, N. Y., fail, causing embarrassment of Tucker, Tracy & Co., their Bradford correspondents. Sale by United Pipe Lines at Oil City Exchange of last balances of oil in its custody.

May 19. Pittsburg Dispatch states that Emsworth has been flowing since Sunday at 500 to 600 barrels a day, and that 5000 barrel tankage is being erected at the well. Contradictory rumors and flying reports of the Emsworth well. Oil said to be of 52° gravity. J. B. Watson, of Oil City, severely injured by breaking of a scaffold at an iron tank which was being taken down at State Line. Charles Palmer, of Tarport, likewise received a severe wound in the arm. Completion of George Rice's Pipe Line from Macksburg to the Muskingum river.

May 20. Bearish feeling begins to prevail in the petroleum market. Robert I. Lane stabbed to death by George Natcher, a German butcher, in an affray at 47 Globe street. Explosion of boiler at Guffy Station, hurls John Cushing, the engineer, about seventy feet, without serious injuries.

May 21. Emsworth well reported to have made a 22-minute flow; whole business afterwards pronounced a hoax. Pittsburg natural gas bill, which decides how gas companies shall be incorporated, passed by the Harrisburgh legislature.

May 22. J. C. Fisher & Co., heavy buyers, and strong bullish sentiment is being aroused. Market reaches 81¼ cents and closes at 80½ cents.

May 23. First sales at 81¼ cents; closes at 80⅝ cents. Speechley gas well No. 2, leased by Fuel Supply Co., of Oil City, struck by lightning and fired.

May 25. Market opens weak; breaks to 80 cents, and closes strong at 81 bid. Fertig & Henne well on Shippen estate, mile northeast on 45 degree line from Cogley Run development, reported dry. Members of Pittsburg Oil Exchange hold a meeting and decide to close up business and divide the surplus in the treasury. Has been in existence 15 years. Stock par value of $25, has sold as high as $2,700. Petroleum Exchange has secured monopoly of the business to the detriment of the older Exchange. Thompson H. Lyon brings suit of ejectment in the Butler county court, against the trustees of the Marshall farm, Fisher Oil Co., and lessees of Armstrong & Semple. Case involves oil tract of 350 acres, valued at about one million dollars. Suit discontinued by plaintiff, on being refused a continuance and another suit brought which will not be tried before next October.

May 26. Market weaker and very quiet. Smith & Crosby and J. C. Fisher & Co., reported heavy buyers. Big blaze at Speechley gas well, seven miles from Oil City, extinguished. Twelve wells in Cogley Run district, doing 334 barrels a day. McIntyre & Wood well pumping 65 barrels.

May 27. Market uninteresting; closing at 80½. Emsworth well pronounced good for five barrels.

May 29. Market opens at 80¼ and closes at 79⅜. Carrying rates, Bradford, 40 cents; Oil City, 50@55; New York, 25; Pittsburg, 40. Captain J. J. Vandergrift, of Pittsburg, and A. F. Allen Brown and C. H. Tew, of Jamestown, file leases for 1035 acres of land in vicinity of Mt. Nebo well.

May 30. Decoration Day. Terrible storm of wind and rain at Butler. House of Charles Duffy struck by lightning. Thomas Brown, of Brown Oil Co., Erie, fails for half a million dollars. 124 wells at Thorn Creek gauge 8884 barrels. Meeting of Bradford citizens and subscription opened for establishment of a city hospital.

THE AVERAGE PRICE OF CRUDE.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

	1879	1880	1881	1882	1883	1884	1885
January	. .	110 1-5	95	83	92¾	111⅓	70¾
February	. .	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅛	80⅜
April	78¾	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85½	79⅝
June	68⅜	100¼	81	54½	117¼	68¾	
July	69⅞	101¼	76½	57⅝	108	63½	
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92¼	71⅓	112½	78	
October	88⅛	96¾	92¾	93⅝	111⅛	71	
November	105⅜	91¼	82⅓	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

WHITE SAND POOLS.

Cherry Grove, Cooper and Balltown Pipe Line Runs to May 31st, 1885.

1882.	Ch'y Gr've.	Cooper.	Balltown.	Total.	Daily Av'ge
	Bbls.	Bbls.	Bbls.	Bbls.	Bbls.
May	6,765	....	....	6,765	218
June	91,102	....	....	91,102	3,037
July	268,294	....	....	268,294	8,655
August	753,752	....	....	753,752	24,315
September	690,072	....	....	690,072	23,002
October	290,246	3,712	....	293,958	9,483
November	146,587	8,810	....	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	163,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114,233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87,193	261,784	8,445
April	31,191	126,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	89,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67,883	151,913	4,900
September	19,590	64,648	63,453	147,691	4,923
October	13,824	56,151	55,211	125,186	4,038
November	12,689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25,469	62,262	2,224
March	11,558	26,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71,216	2,297
Total May 31,'85.	3,417,342	2,288,433	1,717,855	7,423,630	6,587

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to May 31st, 1885. Cherry Grove has produced 3,417,342 barrels, Cooper 2,288,433 and Balltown 1,717,855 barrels. The daily average runs from the three fields during May were 2,297 barrels, an increase of 109 barrels over the April figures. The daily average runs from the Cooper and Henry's Mills sections for May were 1,051 barrels, for April 1,114, and for March 867 barrels.

The Balltown field has a daily average of 902 for May against 775 in April. Cherry Grove averaged 343 barrels during May 299 in April and 373 in March.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to May 31, 1885, inclusive, has been 7,423,630 barrels, a total daily average of 6,587 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are enumerated in the list. In the Baldridge are included the runs from the prolific Thorn Creek district. The pipe line runs from these sections since April 1st, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average.
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1,015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February, 1885	205,774	7,349	18,570	663
March	224,398	7,239	18,770	605
April	280,005	9,333	15,823	527
May	232,138	7,488	22,384	722

REFINED OIL AND REFINERS.

Refined oil has been sold by the single barrel in Erie during the past year for five and a half cents per gallon.

The Thomas Brown Oil Company, of Erie, had its crude oil shipped from Clarendon over the P. & E. R. R. to its refiners at Erie.

George Rice, of Marietta, one of the stalwarts who has fought the Standard for years, is as good natured a man as one could wish to find in many days' travel. He stands over six feet in height, is broad shouldered and wears a large sized hat. In physique he is in striking contrast to that little man with dark, luminous eyes and expansive forehead, whom the oil world knows as John D. Archibald.

THE ACME OIL COMPANY'S REFINERY AT OLEAN.

The Acme Oil Company's refinery, at Olean, N. Y., is ably directed by General Manager Wm. M. Irish and Superintendent David R. Laughlin. The refinery was built in 1877 and '78, by Wing, Wilber & Co., who sold it to the present owners in 1879. It was run by the builders successfully for one year, but on a small scale as compared with its present gigantic proportions. When first erected it had only one 500 barrel still and it now has twenty, with a capacity for refining 24,000 barrels of crude per week, which is one-half of the production of the Allegany oil field. Among the original owners of this refinery were Mr. Wing, of North East, Dr. Wilbur, Rol. R. Richardson, E. C. Bradley, Captain J. T. Jones and Wesley Chambers. These gentlemen sold it January, 1879, about the time the Empire Line was transferred to the Standard.

The Acme Company put in two new stills in 1879, twelve more in 1880 and five more in 1882, making twenty in all. They are now preparing to build four more stills, each of which will have a capacity of 650 barrels.

The Olean Chemical Company manufacture acids on a large scale and supply this refinery. The barrel works connected with the Acme employ 300 men. The Crown Acme is a new brand of superior high test oil which they have been manufacturing for about a year.

NEW PIPE LINE AT THORN CREEK.

The American Oil Works owned by Holdship & Irwin-and the Empire Oil Works represented by D. P. Reighard, refiners of Pittsburgh, have laid a pipe line from Renfrew to wells on the Mangel farm, east of McBride City. They will pump the crude oil which they wish to refine to Renfrew and ship it from that station via the Pittsburgh & Western R. R. to their works at Pittsburgh. They do business under the name of the Pittsburgh Pipe Lines, and are represented in Butler by C. E. Riddle, manager of the lines.

CRUDE MARKET FOR MAY.

The firmness in the petroleum market manifested at the beginning of the month, melted rapidly away the very first day, and the subsequent weeks proved dull and uninteresting. The price of the crude product reached 81 cents, on the 1st and 81½ on the 25th of the month and touched 76¾ on the 7th. These were the extremes.

Thorn Creek having failed to exert a decided influence on values, the outside regions are being drawn upon to furnish the bug-a-boo, which the petroleum market seems never destitute of. Mt. Nebo, near Pittsburgh, is just now the rallying point for the bears. The statistical position of the market remains about the same. Shipments keep steadily in advance of the runs and the surplus stocks are gradually being diminished. Europe is coming in as a good buyer, as shown by the increasing charters.

The month opened with the market at 80⅞ @81, and closed at 79¼@79⅝. The range of prices for May was 4¾ cents, as compared with 4⅜ cents in April and 8 cents in March. The average price for the month, on the floor of the Bradford Exchange, was 79⅝, against 78⅞ cents April and 80⅜ cents in March. The average price for May, one year ago, was 85½ cents.

THE CLEARANCES.

	May. Barrels.	April. Barrels.
Bradford Oil Exchange	63,186,000	59,726,000
Oil City	78,028,000	86,264,000
New York Consolidated Ex.	224,091,000	73,534,000
		132,770,000
Pittsburgh Petroleum (new)	42,065,000	38,731,000
Total	407,370,000	391,025,000

THE REFINED MARKET.

Stocks in foreign ports still continue low, while the charters have, for May, been very heavy, but the position of refined remains very nearly the same. Early in the month, the price was lowered ⅛ cents, which was followed a little later by a drop of another ⅛, but these concessions had slight effect in increasing the amount of business.

On the 24th of the month refind oil in barrels was restored to 7¾ cents for 70 Abel test. the increasing charters, most of which were for June clearances, bringing about a firmer feeling on the part of the refiners.

The domestic trade has been moderate. Prices remain unchanged at 8 cents for 110 test, standard white; 8½ cents for 120 test; 9 cents for 130 test; 9½ N. Y. State test, and 10 cents for 150 test, water white.

Mr. Geo. H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East, up to the first of June, for the years 1884 and 1885:

	1885. Cases.	1884. Cases.
CHINA.—Shanghai, previously reported	480,050	201,300
" May	304,768	
Hong Kong, previously rep'd	296,695	326,400
" May	....	
JAPAN.—Yokohoma, previously rep'd	442,189	262,403
" May	62,074	
Hiogo	300,832	202,100
Nagasaki	32,942	71,516
INDIA.—Calcutta, previously reported	538,434	858,306
" May	20,000	
Bombay, previously reported	650,059	232,231
" May	179,841	
Kurrachee	57,937	....
Point de Galle	50,026	....
Madras	47,382	42,260
Rangoon	....	140,175
JAVA.—Batavia,	168,790	245,747
Anjier	369,007	623,743
SINGAPORE.	....	73,520
Penang and Singapore	103,205	58,650
Penang, May	19,500	....
Other Eastern Ports	157,453	90,543
Total June 1	4,281,184	3,428,894
Total May 1	3,363,904	2,609,234
May Clearances	917,280	819,660
Increase, as compared with May last year	97,620	

REFINED QUOTATIONS FOR MAY.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwerp.
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	7⅞	7⅝	7⅝	6⅛	7 15	17⅝
2	7⅞	7⅝	7⅝	6⅛	7 15	17⅝
3	..	..	..	..	..	..
4	7⅞	7⅝	7⅝	6⅛	7 10	17⅝
5	7¾	7⅝	7⅝	6⅛	7 05	17¾
6	7¾	7⅝	7⅝	6¼	7 05	17⅝
7	7¾	7⅝	7⅝	6¼	7 05	17⅝
8	7⅞	7½	7½	6¼	7 00	17⅞
9	7⅞	7½	7½	6⅛	7 00	17½
10	..	..	..	..	..	..
11	7⅝	7½	7½	6¼	7 05	17⅝
12	7⅞	7½	7½	6¼	7 05	17⅝
13	7⅞	7½	7½	6¼	7 05	17⅝
14	7⅝	7½	7½	6¼	7 05	17⅝
15	7⅝	7½	7½	6¼	7 05	17⅝
16	7⅞	7½	7½	6¼	7 05	17⅞
17	..	..	..	..	..	..
18	7⅝	7½	7½	6¼	7 05	17⅝
19	7⅝	7½	7½	6¼	7 05	17⅝
20	7⅝	7½	7½	6¼	7 05	17⅝
21	7⅞	7½	7½	6¼	7 05	17⅞
22	7⅝	7½	7½	6¼	7 05	17⅝
23	7¾	7⅝	7⅝	6¼	7 05	17⅝
24	..	..	..	..	..	..
25	7¾	7⅝	7⅝	6⅛	7 00	17⅝
26	7¾	7⅝	7⅝	6⅛	7 00	17⅝
27	7¾	7⅝	7⅝	6⅛	7 00	17⅜
28	7¾	7⅝	7⅝	6⅛	7 05	17⅜
29	7¾	7⅝	7⅝	6⅛	7 05	17⅜
30	7¾	7⅝	7⅝	6⅛	7 05	17⅜
31	..	..	..	..	..	..

MORRIS, TASKER & CO., Limited.

ESTABLISHED IN 1821.

Works at Philadelphia, Pa. and New Castle, Del.

Offices at Philadelphia, New York, Boston, San Francisco, Butler, Boliver and Bradford.

TUBING, CASING, STEAM PIPE, BOILER TUBES and DRIVE PIPE.

One of the Oldest and Largest Pipe Mills in the World.

This house was the first to furnish the Pioneers of Oil Creek with supplies, and has since held the first place with operators in all the vicissitudes through which the *Procession* has passed on its way to McKean. Our goods are uniform in Quality, even in Length, Straight, made of the Best Iron in our Patent Gas Furnaces and have always retained the best reputation.

——Each Joint of our Tubing is Supplied with our patent——

ANNEALED STEEL COUPLING.

This Coupling, phenomenal in its strength, Remarkable for its toughness and Desirable for its wear has become the most popular patent applied to Oil Tubes.

TEN MILLION feet of our Goods have been put into the Oil Wells of this Country and have given such Satisfaction that the Demand for them is to-day as Great as ever.

DO NOT BE DETERRED FROM CALLING AT

"POWER HALL"

To Learn the Latest Prices by the Magnificence of our PORTCULLIS, as we keep the same Fauteuil for the Oil Prince and the Horny Handed Son of Toil.

S. G. BAYNE, General Agent,

BRADFORD, Pa.

P. S.—For details of Farrar & Trefts Machinery, wet your thumb and turn this page back

FARRAR & TREFT'S

PATENT

ENGINES AND BOILERS

Cheap and irresponsible Bombast may be written by almost any one. Blatant assertions may be made, and predictions reiterated, but what do these amount to compared with *Solid Significant Facts*, facts which the *Oil Producer* can satisfy himself on in an hours time, whenever he desires to investigate. Since business opened in Bradford 33 engines have been represented by 33 agents all of whom have proclaimed with *Trumpet Tongue*—"We make and sell the best and there is no other Machinery but ours." We ask

Who has sold the Machinery?
Who got the Money for it?
Why was it Bought?
Why was it Paid for?

9,000 of these Engines and Boilers have been sold, delivered and are to-day giving perfect satisfaction to their owners.

We have collected and remitted almost **$3,000,000** in Payment of these Goods.

These simple facts alone show who has sold, the cause of Purchase and why Paid for.

Does any practical business man pretend to say that we could abstract *Three Million Dollars* (as much as our 32 competitors) from this country if we did not give the purchasers the best Machinery. No! The Oil Man gets up too early for any such scheme as that.

OUR ENGINE IS ESPECIALLY ABOVE ALL OTHERS,

ECONOMICAL, STRONG, SIMPLE, DURABLE.

These Qualities have been and are recognized by the owners of the thousands now in use.

BOILERS

Our Boilers are the Largest in their Proportions, and consequently weigh more than any boiler in the Field.

THEY ARE HAND RIVETED. ...

Our per centage of explosions is one boiler in 1,500 from all causes whatever. A large per centage of them are still doing their work when over 12 years in constant use.

WE ARE FOLLOWING THE

"THRESHING MACHINES" AND "BUDDENSEIC BOILERS"

Down in Price and you will never know how close we get to them till you try in Person, by Mail over the Wire, or Through the Phone at

"POWER HALL"

S. G. BAYNE, General Agent,
BRADFORD, Pa.

P. S.—This is only one half the story of "Power Hall," for a chapter on the Annealed Steel Company, see next page.

PETROLEUM EXPORTS.

THE exports of refined, crude and naphtha, from all United States ports from Jan. 1 to June 6, for the years 1884, 1885, were as follows:

	1885. GALLONS.	1884. GALLONS.
From Boston	2,759,741	2,539,531
Philadelphia	52,439,714	29,25.,839
Baltimore	4,151,286	4,313,324
Total	59,350,741	36,112,694
From New York	150,304,991	149,600,289
Total exports from United States	209,655,732	185,712,983

The appended table from the *Shipping List* gives the total exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1st to June 13th, for the years 1884 and 1885:

REFINED.

	1885.	Total.	1884.
GREAT BRITAIN.—London	8,892,766	....	4,795,109
Liverpool	3,938,431	....	1,340,042
Bristol	2,339,089	....	390,780
Ireland	2,133,378	....	1,110,270
Other ports	3,686,061	....	2,421,242
		20,989,725	....
GERMANY—Bremen	8,835,498	....	17,287,030
Hamburg	11,870,498	....	16,161,972
Konigsburg and Stettin	3,535,496	....	1,939,158
Dantzic	1,019,587	....	....
Other Ports	318,112	....	580,329
		25,579,191	....
FRANCE—Marseilles	....	....	....
Havre	....	....	....
		....	....
Norway and Sweden	2,155,208	2,155,208	1,877,272
Russia	283,560	283,560	....
		....	....
DENMARK—Tuborg	562,614	....	....
Aarhuns	283,214	....	....
Aalborg	92,703	....	....
Copenhagen	1,230,060	....	....
Elsinore	298,778	....	....
Kastrup	405,563	....	....
Other Ports	348,998	....	....
		3,231,930	3,674,529
Belgium	9,352,412	9,352,412	13,774,260
		....	....
HOLLAND—Amsterdam	4,282,479	....	....
Rotterdam	3,399,072	....	....
		7,681,551	10,086,253
Spain	5,000	5,000	70,000
Portugal	483,967	483,967	351,718
Gibraltar and Malta	533,000	533,000	2,368,560
Italy	1,204,159	1,204,159	619,939
Austria.--Trieste, etc	1,237,974	1,237,974	1,633,896
Greece	384,000	384,000	....
Turkey in Europe	1,091,234	1,091,234	662,420
Turkey in Asia	741,100	741,100	1,187,780
Arabia	250,000	250,000	....
		....	....
INDIA AND SIAM—Bombay	8,289,000	....	....
Calcutta	5,094,820	....	....
Point de Galle	500,260	....	....
Bangkok	594,010	....	....
Kurrachee	579,370	....	....
Madras	473,820	....	....
		15,531,280	11,531,820
CHINA AND JAPAN—Shanghae	8,741,580	....	....
Hong Kong	4,089,340	....	....
Yokohama	4,592,630	....	....
Saigon	240,520	....	....
Tientsin	150,000	....	....
Nagassaki	340,000	....	....
Hiogo	335,370	....	....
		18,489,440	10,754,190
EAST INDIES—Anjier	3,927,470	....	....
Batavia	1,687,900	....	....
Iloilo	....	....	....
Manila	....	....	....
Padang	390,000	....	....
Penang	660,250	....	....
Rangoon	....	....	....
Singapore	559,500	....	....
Banjermassin	200,000	....	....
Macassar	....	....	....
		7,425,120	11,981,710
AFRICA.—Alexandria, etc. E	1,317,240	....	632,660
Canary Islands	54,000	....	39,000
Other Ports	974,030	....	1,046,882
		2,345,270	....
Australia	1,894,780	1,894,780	965,129
New Zealand	774,004	774,004	340,508
Sandwich Islands	....	....	175,100
		....	....
SOUTH AMERICA.—Brazil	3,559,021	....	1,816,879
Argentine Confederation and Uruguay	1,398,260	....	1,321,270
Chili and Peru	461,139	....	294,742
U. S. Columbia	140,489	....	227,623
Venezuela	316,597	....	283,395
Other Ports	23,160	....	29,300
		5,898,666	....
Central America	93,743	95,743	123,531
Mexico	609,626	609,626	588,730
British North American Colonies	392,903	392,903	335,127
Cuba	191,111	191,111	281,861
British West Indies and Br. Guiana	958,874	958,874	770,825
Other West Indies	698,455	698,455	572,257
Total Galls.	130,507,283	130,507,283	126,145,198

CRUDE.

	1885.	Total.	1884.
FRANCE.—Havre	3,130,697	....	3,944,833
Marseilles	1,118,392	....	1,750,052
Bordeaux	571,024	....	766,369
Dunkirk	3,164,788	....	2,612,604
Cette	797,939	....	....
Rouen	253,524	....	....
Les Sables d'Ollone	240,911	....	....
St. Loubes	....	....	....
		9,277,275	3,416,243
Antwerp	....	....	....
Bremen	1,711,032	1,711,032	....
Austria—Fiume	423,815	423,815	3,555,915
Norway and Sweden	....	....	....
		....	....
SPAIN—Alicante	1,459,353	....	....
Pasages	302,796	....	....
Bilboa	1,371,110	....	....
Barcelona	565,348	....	....
Carthagena	42,786	....	....
Corunna	681,794	....	....
Malaga	556,990	....	....
Santander	445,890	....	....
Seville	460,750	....	....
Tarragona	83,910	....	....
Valencia	456,828	....	....
		6,427,555	5,786,689
Cuba	1,481,378	1,481,378	1,503,007
Total Galls.	19,321,055	19,321,055	23,335,772

NAPHTHA.

	1885.	Total.	1884.
Great Britain	1,555,791	....	1,247,966
France	484,008	....	739,282
Germany	348,286	....	347,565
Other Europe	695,852	....	451,887
Various Ports	31,620	....	77,439
Total Galls.	3,115,557	....	2,864,139

RESIDUUM.

	1885.	Total.	1884.
To all Ports	2,706,450	2,706,450	1,883,625

	GALLONS.
Total Refined since January 1, actual shipments	136,271,819
do do do do crude equivalent	181,695,758
do Crude do do actual shipments	19,441,055
Grand Total Crude and Crude equivalent . . . . galls.	201,136,813
Same time, 1884	197,978,411

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, June 12th, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude.	Naph.	Res.	Total.
New York	47	34	5	3	0	89
Philadelphia	31	15	11	1	2	60
Baltimore	3	0	0	0	0	3
Boston	4	2	0	0	0	6
Total.	85	51	16	4	2	158
Total May 7	72	35	19	5	5	136
Difference	13	16	3	1	3	22

SUMMARY of the statement of the Tidewater Pipe Co., Limited, for May, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of May		1,512,639.53
Quantity of crude petroleum at close of May	1,635,377.58	
Less sediment and surplus	120,466.90	
		1,514,910.68
Receipts during May		191,632.83
Deliveries during May—to refiners	186,420.73	
" " " —to other parties	....	
		186,420.73
Outstanding certificates, accepted orders, etc		820,000.00
Credit balances		694,910.68
Total liabilities May 31, 1885		1,514,910.68

APRIL SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of April		1,492,478.68
Quantity of crude petroleum at close of April	1,617,133.37	
Less sediment and surplus	104,493.84	
		1,512,639 53
Receipts during April		192,515.52
Deliveries during April—to refiners	169,480.45	
" " " to other parties	....	
		169,480.45
Outstanding certificates, accepted orders, etc		823,000.00
Credit balances		689,639.53
Total liabilities April 30, 1885		1,512,639.53

SUMMARY of the statements of the National Transit Co., for May and April, 1885.

	MAY.	APRIL.
Receipts from all sources	1,568.310.73	1,627,341.21
Deliveries	1.902,177.60	1,646,273.83
Gross stocks end of month	37,233,101.90	37,330,872.86
Sediment and surplus	3,382,501.01	2,909,722.87
Total liabilities end of month	33,850,600.89	34,421,149.99
Outstanding acceptances	26,864,600.44	27,474,098.56
Credit balances	6,986,000.45	6,947,051.43

The above receipts from all sources for May were made up as follows:

Transferred from United Pipe Line as reported to N. F. Hilton, representing Conference of Oil Exchanges	319.65	
Less sediment and surplus		
Net amount from United Pipe Lines		319.65
Runs from wells		1,567,991.08
Received in iron tanks		
Total		1,568,310.73

RUNS, SHIPMENTS AND STOCKS.

RUNS OR RECEIPTS.

PIPE LINE.	MAY, 1885.	APRIL, 1885,
National Transit Co	1,567,991.08	1,604,795.50
Tidewater	191,632.83	192,515.52
Octave Oil Co	2,581.00	2,645.60
Charley Run		
Shaffer Run		
Franklin (limited)	7,481.62	8,563.09
Cranberry Pipe Line	1,485.96	2,342.70
Total	1,771,172.49	1,810,862.41
Daily average	57,134.59	60,362.08

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	MAY, 1885.	APRIL, 1885.
National Transit Co	1,902,177.60	1,646,273.83
Tidewater	186,420.73	169,480.45
Octave Oil Co	2,173.00	3,068.07
Charley Run		
Shaffer Run		
Franklin (limited)	3,793.11	4,930.40
Cranberry Pipe Line	2,188.63	1,930.89
Total	2,096,753.07	1.825.683.64
Daily average shipments	67.637.19	60,856.12

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532.22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020.89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily exeess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23
Daily excess of runs over shipments, December	6,395.92
Daily excess of shipments over runs, November	3,548.49
Daily excess of shipments over runs, October	3,972.41
Daily excess of shipments over runs, September	11,372.77
Daily excess of runs over shipments August	1,571.67
Daily excess of runs over shipments, July	12,905.31
Daily excess of runs over shipments, June	12,183.86

NET STOCKS.

PIPE LINE.	MAY 31, 1885.	APRIL 30, 1885.
National Transit Co	33,850,600.89	34,421,149.99
Tidewater	1,514,910.68	1,512,639.53
Octave Oil Co	5,498.00	5,138.72
Charley Run	3,717.00	3,717.00
Shaffer Run	30,636.32	30,636.32
Franklin (limited)	31,187.62	27,499.11
Cranberry Pipe Line	23,576.53	24,279.20
United Pipe Line		319.65
Total	35,460,127.04	36,025,379.52
Stocks decreased May		565,252.48
Stocks decreased April		42,525.72
Stocks decreased March		248,900.89
Stocks decreased February, 1885		376,306.01
Stocks decreased January, 1885		179,780.27
Stocks decreased December, 1884		984,300.33
Stocks decreased November, 1884		266,552.87
Stocks decreased October, 1884		616,976.88
Stocks decreased September, 1884		345,281.52
Stocks increased August, 1884		97,092.86
Stocks increased July, 1884		323,063.10
Stocks increased June, 1884		190,320.23
Stocks increased May, 1884		322,981.75
Stocks increased April, 1884		1,945,919.83
Stocks increased March, 1884		164,711.33
Stocks increased February, 1884		206,984.61
Stocks increased January, 1884		119,365.56
Stocks increased, December, 1883		220,328.28
Stocks Decreased November		121,800.43
Stocks Decreased October		135,681.61
Stocks Decreased September		350,167.79
Stocks Decreased August		269,053.22
Stocks Increased July		386,004.51

	RECEIPTS.	DELIVERIES.
Daily Average May	57,135	67,637
Daily Average April	60,362	60,856
Daily Average March	54.098	60,861
Daily Average February, 1885	54,976	67,667
Daily Average January, 1885	53,290	58,183
Daily Average December	61,743	76,808
Daily Average November 1884	61,751	69,264
Daily Average October,	63,064	80.966
Daily Average September,	65,952	76,391
Daily Average August, 1884	66,996	64,402
Daily Average July, 1884	66,702	56,170
Daily Average June,	67,350	60,907
Daily Average May,	66,688	56,448
Daily Average April,	65,794	54,773
Daily Average March,	64,590	60,445
Daily Average February,	64,573	59,420
Daily Average January, 1884	58,178	54,404
Daily Average December, 1883	62,830	56,434
Daily Average November	65,281	68,829
Daily Average October	67,649	71,621
Daily Average September	66,210	77,582
Daily Average August	68,877	67,306
Daily Average July	65,628	52,722
Daily Average June	70,443	58,259
Daily Average May	69,445	61,411
Daily Average April	69,207	63,612
Daily Average March	64,404	52,732
Daily Average February	65,208	44,375
Daily Average January	65,125	43 813

A NEW DEVELOPMENT OF THE ANILINE COLOR INDUSTRY.

Aniline colors are exclusively made, up to the present time, from coal-tar products, such as are obtained by the fractional distillation of coal-tar from coal gas works.

These products so obtained from coal-tar such as Benzole, Naphtalene, and Anthracene are hydrocarbons of the so-called aromatic series, and which are the basis of the endless series of artificial dyes. Petroleum hydrocarbons or hydrocarbons of the so-called fat series, are not able to produce any dyes by chemical treatment, being absolutely inactive against most of the chemicals used for the transformation of coal-tar products into dyes.

A new process, patented 1880, has been worked out by Dr. F. Salathe, which allows to transform, chemically, petroleum hydrocarbons into coal-tar hydrocarbons, yielding a comparatively larger amount of these valuable substances used in the manufacture of dyes.

Coal-tar has an average percentage of benzole of 1 and 2 per cent. while the new tar called anthracitic tar, as made from petroleum, yields up to 15—20 per cent. of benzole. This benzole, a water-white liquid of about 0.880 gravity, is transformed by the action of nitric acid into nitro-benzole, which by further treatment of nascent hydrogen, is converted into aniline oil a slightly yellowish oil.

By means of different acids and metalic salts aniline oil undergoes a radical change, producing the most brilliant colors, which are used all through the world in dying silk, wool, cotton and other vegetable and animal fibres.

Works have been erected at Titusville, Pa., for the working of this process, and will be in operation in a short time.

THE PETROLEUM AGE.

DEVOTED TO THE

Interests of the Petroleum Trade.

PUBLISHED MONTHLY BY

McMULLEN SNELL, & ARMOR.

BRADFORD, PA.

W. C. ARMOR, MANAGER.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid) . . . . . $3.00 per Year in Advance.
Subscription Price (Postpaid) . . . . . $1.75 per 6 months in Advance.
Foreign Subscription . . . . . $3.50 per Year in Advance.
Single Numbers . . . . . 30 cents.
The Bradford office of the AGE is in the Producers Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

Allegany completed 23 productive wells and 4 dry holes in May. At the close of the month there were 20 new rigs up and building, and 28 wells drilling. The Niles Oil Co. finished a fair well on the Hicks farm in the "black oil district," that made 16 barrels the first 24 hours. It had 14 feet of sand. Coast & Co. report a dry hole on lot 91, Alma; and McEnroe & Elliott found a duster on lot 4, Scio. Of the two dusters included in the miscellaneous list of the Allegany field, one is located in Chemung and the other in Potter county. The runs from the Allegany field averaged 7,467 barrels a day in May, and 7,738 barrels in April.

BRADFORD FIELD.

There were 13 more wells finished in May than in April in the Bradford field, and the new production shows a slight increase. Two dry holes were discovered—one on the Bowen lands, in the vicinity of Alton, and the other on Warrant 3,732, on Sugar Run. The 35 productive wells are estimated to have a new production of 603 barrels for the last of the month. The Bradford runs were 28,443 barrels a day in May, 29,557 in April, and 26,833 in March. On the 31st, ult., there were 19 new rigs and 34 wells drilling in the Bradford field. The old rigs numbered 53.

WARREN AND FOREST.

The Middle field furnishes 60 productive and 7 unproductive wells for the month of May. Clarendon and Tiona still continue the most active portions of the field, while the wildcat operations in various parts of the undeveloped territory are beginning once more to attract attention. At the close of the month, there were enumerated 48 new rigs, 20 old ones, and 60 drilling wells.

The new development on the flats, north of Kinzua village, has received a slight impetus since the first of the month, by the Phillips & Parker strike on the Wm. Marsh farm, three-quarters of a mile southeast of the Parker & White No. 2. It ran into the sand on June 12, and the first 50 hours made 300 barrels. Brown & Fogel have completed a good well on the island, north and west of their dry hole on the Harris. The Duke & Shirley, which showed up as dry last month, has been cleaned out and made a small producer. Porter & Conley have completed a small well on the Swift farm, the present month. At the present writing, but one well is drilling—that of Dr. Van Scoy, on the Marsh farm, near the depot.

The completion of the Ray & Murphy duster on lot 440, 700 feet north of the Reid & Brenneman, second sand gusher, lends a momentary interest to that phenomenal producer. Reid & Brenneman run unexpectedly into the sand at this well, two years ago the 25th of April. But a single scout was near this frontier wildcat at the time, and his telegrams of a gusher north of the Cooper development, were sufficient to shake the market from 94 to 85 cents. The well was located on lands of F. Henry through a mistake, the owners thinking it on 441. The McCalmont Oil Co. soon after bought lot 440 with this well. It has been shot no less than ten times since its completion—the last time within a month, when it responded with 300 barrels for 24 hours production. Reid & Brenneman immediately drilled a second well, this time locating in the southeast corner of 441, directly west of their first venture. It was absolutely dry. M. Murphy drilled a well north of the R. & B. duster, which was likewise a failure. The McCalmont Oil Co. afterwards drilled six dry holes, in various directions from the first well, in a vain attempt to find an outlet to the phenomenal body of oil which supplied the initial experiment. This last failure of Ray & Murphy makes nine dusters that have been drilled on lots 440 and 441, and the lands in the south, since the first well proved such a success. The Reid & Brenneman well finds its oil in the second sand, 114 feet above the regular sand of the Cooper development.

The country southwest of Tiona still continues the most active section of the Middle field. The wild-catters are reaching out several miles in front of the frontier wells in an attempt to extend the area of productive territory. On lot 281, Horton, Crary & Co. have completed a small well, which required the expenditure of 300 quarts (1,000 pounds) of nitro-glycerine, to make it produce oil. Cochran Bros. have an

experiment under way in the southeast corner of lot 243; and Thompson & Jones are drilling a test well near the northeast corner of 664.

North of Henry's Mills, the McCalmont Oil Co. completed a dry hole near the centre of lot 408. Southwest of the Cooper; Melvin, Walker & Co. found another duster on lot B, of Warrant 3,193, on the south side of the Tionesta Creek. One or two wells of a wildcat nature are projected southeast of the Balltown field, on Warrant 5,215.

THE LOWER COUNTRY.

The lower country continues to absorb the flagging interest which at present is taken in field operations. During the past two months considerable land has been leased in Venango County, where prospectors are carrying on a small amount of work. Drilling in the vicinity of the Lee well at Gates Corners, has been unsatisfactory to producers who are seeking crude wealth in that locality. The Davis well on the Ham Davis farm, 75 rods south of the well of Lee & Co., and the wells drilled by Lee & Co., on the Lusher and Wellsby farms northeast of the original well, came in dry. The Anchor Oil Co.'s well on the Mrs. Lowell farm, was due June 16th. At all the dry holes they found from 35 to 45 feet of second sand which was barren of oil, but no third was discovered. The well on the Wellsby farm was drilled to what they call the fourth sand, in the Rockland section, and disclosed a small amount of oil. Considerable gas was found at the Davis well. The well drilled by Neeson, at Foster Station, failed to show any traces of oil and the wells completed at Mount Hope were of small caliber.

During May a well which started at 75 barrels was finished on the Crawford farm, along Scrubgrass Creek, not far from the famous No. 10 drilled by Phillips in the fall of 1877. Several dry holes have lately been finished at the southwestern end of the Bullion field, but the search after crude continues as far to the southwest as Murrinsville. The Cogley Run district between Clarion and Venango counties, is attracting more attention at present than Thorn Creek. The outlines of the district are no more carefully drawn than they were one month ago, as the true inwardness of the Fertig & Henne well on the Shippen, and the Bassett well on the Bassett, two important test wells, one a mile to the northeast of the original well, is not known, although reported dry. The M. E. Hess well on the Widow Heeter farm, a mile to the southwest of the old Cogley Oil Co.'s well, is rated at three barrels. Moore & Co.'s well on the Kennemuth farm, due south of the Smithman producer, is rated at ten barrels. One mile and a half southeast of the old Cogley development, the Pitch Pine Oil Co. drilled a dry hole during May. The natives in that section would not believe that a well drilled by Peter Schreiber, in that section in 1877 was dry, and located a second well 200 feet northeast of the old duster. The drill gave a verdict which satisfied the natives that the report concerning the failure of the first well was correct. Thus far the wells drilled furthest to the east are the best. Crawford & Co.'s well on the Strutman, is the largest well up to June 15th, which has been struck in the field. On the 11th of the month there were 24 rigs up and building, and 22 wells drilling in the Cogley Run district. The 26 wells producing at that date were estimated to have a production of 750 barrels. A well drilled in Elk City, could not be raised to a producer of one barrel capacity. Jacob Hahn is operating successfully several miles ahead of the pike on the Wagner and adjoining tracts. On the first day of June there were 24 new rigs, one old one and 18 wells drilling, making a total of 43 in Clarion county against 27 on the first day of the previous month.

Drilling in the bowlder rock of the Martinsburg section, resulted in the usual number of good wells for that locality, in May, and quite an important well was finished one mile and a quarter southwest of the wells on the Hooks farm, by the Argyle Oil Co. This new strike, which is situated on the R. H. Campbell farm, has the following record: The bowlder, which had a thickness of thirteen feet, was struck at a depth of 1170 feet. Below the bowlder they found 30 feet of third sand, and after they drilled into this the well flowed every bit. From the indications and the start which the well made, it is expected to settle to a 25-barrel producer. Campbell & Younkins, the well-known contractors, have a third interest in the well and a desirable block of land of broad dimensions in the immediate vicinity of the well. The narrow fourth sand streak at St. Joe, is affording some excellent wells to Phillips Bros., Hite & Co. and McGuire & Co., who are extending it to the westward. Some of these wells start and hold up at 100 barrels for a number of months. The belt has a width of about thirty rods and the fourth sand rock runs out quickly on each side. The Columbia Oil Co.'s well on the Millinger farm—quite a long distance in advance of devel-

opments on the western end—encountered a large amount of gas and salt water, but up to date has not shown any oil. On Sunday, June 14th, the gas at the well was burning furiously.

THORN CREEK.

The precedents of the past seem to have but little influence in regulating the crude speculative tides. With all men the failures of bygone times are not the stepping-stones of to-day, and they gain but little wisdom from what has gone before. Last August, when the phenomenal gushers of Thorn Creek began to put forth their wealth of crude, the market took the same downward drift that it had during the Cherry Grove excitement. The field has natural difficulties in the way which prevents its rapid development, and being controlled in the main by a few large companies, there will be a smaller number of losers among the operators who drill on small lots in white sand fields. When properties were divided up into small patches, producers evinced the same disposition to work against inevitable failure, as demonstrated by those who drilled on the checker-board blocks of the Cherry Grove section.

The average daily pipe line runs for November and April show those months to have been the ones in which the average production ranged highest; and when the aggregate yield of the field is ascertained, it will be found indirectly proportional to the depression it has caused in crude values.

Since the first of May the drill has placed a cordon of dry holes squarely in front of the pool to the east, and it now looks as if the eastern limit of the pool was determined. The dry holes drilled on the Morrison Heirs, McLaughlin and Wise farms by Clark, Reep & Sutton, John Snee, Phillips Bros. and Frederick & Campbell, gave additional importance to the test well drilled by Lappe & Co., on the McElwaine farm, which served as a good test for the theory of a streak to the northeast. The failure of this venture sets at naught the theory of a belt curving in a northerly direction, as it passed to the east. There were 4 rigs up and building, and 30 wells drilling on the 13th inst; and on the first of the month there were 12 new rigs, 1 old one, and 57 wells drilling, making a total of 69. The 29 wells finished in May had a production of 3,700 barrels on the last day of that month.

Beyond the limits of the Thorn Creek field, other prolific pools may be found; but the many wildcat wells finished since the first success of the great strikes have resulted disastrously to the prospectors. Northwest of Thorn Creek, in Muddy Creek and adjoining townships, five test wells were drilling on the first of the present month. The Lockwood well, on the McKinney farm, over two miles northwest of Renfrew, has been drilled below the level of all sands, and found to be dry. It not only failed to get any showing of oil below the bowlder, but demonstrated that the third and fourth sands were not deposited in this locality.

Phillips Bros., who are looking for pools as far to the east as Herman's station, have located two rigs east of the Thorn Creek pool.

MT. NEBO.

The Mt. Nebo well, in Ohio township, Allegheny county, Pa., is 18 miles southwest of Thorn Creek, and on a good range with the pools and oil fields of Pennsylvania. The depth at which the white sand—which affords the principal amount of oil—was struck, is reported at 1,960 feet. According to the barometrical levels of the oil scouts, the sand is 790 feet below tide water level. The mouth of the well is 455 feet above the railroad station at Emsworth, or 465 feet above the level of the Ohio river. At this writing the well has not been drilled through the white sand. On the first of June the well made a flow of 15 barrels, and on the following day the hole had filled up 700 feet with fluid. On June 5th it made a flow of 8 barrels.

A well was drilled in Marshall township, 7 miles northwest of Mt. Nebo, which produced some oil; and J. M. Guffey & Co. finished one three and a half miles southeast of Mt. Nebo at Bell Vernon last winter, which made a showing of oil. The scouts who have watched the well persistently, do not rate it above a 10-barrel producer, and some of them think it will fall below that in its daily yield.

The Baldridge Oil and Transportation Company recently declared a dividend of ten per cent. The officers of the organization chosen at the late election, are as follows; President, W. D. Brandon; Treasurer, John S. Campbell; Secretary, Harvey Colbert; Superintendent, Ferd Reiber; Directors, W. D. Brandon, R. P. Scott, Hon. Geo. W. Fleeger, A. L. Reiber, and Geo. Krug; Auditors, O. K. Waldron and R. P. Scott.

The Keystone Gas Co. of Olean, N. Y., charge $4.00 per month for a cook stove, and $1.60 during the summer for a heating stove, when kept on during the summer months. Consumers may take gas at 50 cents per 1000 feet if they prefer.

MAY OPERATIONS.

THE ENTIRE REGION,—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN MAY, 1885.

Allegany Field.

Twp.	Owner.	Barrels.
Scio, lot 2,	Coast Oil Co. No 31	8
do lot 4,	McEnroe & Elliott, No 4	dry
do lot 1,	Pickering & Smith	5
do lot 2,	Pennell Bros	5
do lot 1,	Applebee Bros No 3	5
Alma, lot 37,	Perrin & Young	5
do lot 55,	W P Decker No 2	6
do lot 87,	Shirley & Hochstetter No 1	5
do lot 107,	do No 7	6
do lot 86,	Finnegan & Co No 1	7
do lot 86,	do No 2	7
do lot 78,	Torry & Pirdun No 1	5
do lot 91,	W F Coast & Co No 2	dry
do lot 18,	M J McMullen & Co	8
Wirt, lot 1,	McCoy & Whitcomb	5
do lot 34,	(Skinner Farm) H H French & Co	5
do lot 34,	do do	5
do lot 6,	(Jordan Farm) Calkins & Peters	2
do lot —,	(Hicks Farm) Niles Oil Co	5
Bolivar lot 7,	Coast Oil Co No 45	8
do lot 8,	Anderson Bros & Bryson No 1	10
do lot 15,	John Fay	8
Clarksville, lot 20,	Clarksville Oil Co No 2,	5
do lot 20,	Love & Penzer	6
Genesee, lot 8,	I Willets, No 60	8

Miscellaneous.

Chemung Co. N Y.,	Ira Sawyer	dry
Warrant 54,8,	Potter Co, Pa., Allen & Emerson	dry

Wells completed	27
Production	139
Dry	4

Bradford Field.

Bowen lands, (Kinzua)	Phillips & Co	dry
Rutherford, J T	Jones, No 31	12
do do	No 32	12
do do	No 33	12
do do	No 34	12
Dikeman, Whitney &	Wheeler No 26	10
J Buchanan, Bettell &	Co No 1	5
Clark, Rolfe Bros	No 26	10
Dunham, Williams &	Kilbury	8
Snyder, C Sharp &	Co	8
S L Wilson, W A	Waid No 4	5
Van Campen, Gregg &	Stearns No 6	8
do Wm Doe,	No 7	10
Dodge, Shear Bros	No 8	8
Weston, J L	McKinney & Co	10
Keating, Forest Oil Co	No 48	10
Bingham, lot 570,	Union Oil Co No 18	25
do lot 578,	do No 28	40
do lot 577,	do No 31	50
do lot 578,	do No 36	15
do lot 548, F pur	do No 34	30
do lot 418,	(Wolf Run) do No 25	15
do lot 425,	do No 26	15
do lot 591,	Associated Producers No 41,	30
do lot 589,	do No 43,	15
do lot 591,	do No 44,	50
do lot 583,	do No 47,	10
do lot 577,	Rose & McLeod No 2	20
do lot 590,	Bayne & Fuller No 3	15
do lot 590,	do No 6	25
do lot 591,	T J Melvin No 6	20
do 565,	John McKeown No 1	30
do 565,	do No 2	20
do 546,	C P Byron No 2	20
do Kinzua,	Emery Oil Co No 40	10
Niles tract, do	Chapin & Co No 5	8

Miscellaneous,

Warrant 3732, Sugar Run,	Mead, McKinkinney & Co	dry

Wells completed	37
Production	603
Dry	2

Warren and Forest.

Glade and other Towns.

Kinzua Village,	Whitcomb, Sherman & Wells	dry
do	Harris, Duke, Shirley & Hostetter No 1	dry
do	Harris, Duke, Shirley & Hostetter No 2	dry
Wardwell, Benedict &	Robinson No 17	5
Cobham, Union Oil Co	No 23	6
Irvine, Brown Bros	No 5	8
Eichoff, Eichoff		6
Verbeck, C W H	Verbeck	dry
Eddy, Butts, Harley &	Waugeman	10
Rankin, Fred Hue & Co	No 1	5
Shultz, Shultz & Co		6
Near cemetery, S A	Logan No 1	4
Lot 469, Mead	twp, Anchor Oil Co	10

Wells completed	13
Production	60
Dry	4

Clarendon.

35, Hazeltine &	Bell No 4	6
35 and 53, A J	Thompson & Co No 1	6
do do	No 2	7
do do	No 8	8
53, Union Oil Co	No 25	6
464, Columbia Oil Co	No 17	5
464, do	No 18	6
466, King &	Magee No 2	5
499, Munroe &	Finnegan No 4	6
479, E O'Donnell	No 3	6
79, Rogers &	Co	6
80, Thayer &	Crosby	5
162, J A	Dower No 4	6
526, E O	Emerson No 8	6
526, do	No 9	7
464, South Shore Oil Co	No 8	6
557, Goal Bros	No 5	6
558, do	No 7	8
558, do	No 9	7
557, Towns Bros	No 4	6
513, F H	Rockwell & Co No 14	8
592, Clark, Foster &	Co No 1	8

Wells completed	22
Production	140
Dry	0

Tiona.

75, Fertig &	Henne	4
110, do	No 22	6
110, do	No 23	7
110, do	No 24	8
110, do	No 25	7
110, do	No 26	8
109, J S	Patterson No 31	7
109, O F	Schonblom No 8	6
165, Whitehill &	Co No 8	7
161, Helm &	Mealey No 11	6
165, Charles	Dunham No 5	6
201, L H	Best No 3	8
201, Wesley	Chambers No 5	6
202, Mandell Oil	Co No 1	7
202, E O	Emerson	6
202, do		6
204, (Farnsworth) E O	Emerson No 8	6
204, W J	Wood & Co No 5	6
204, do	No 6	8
204, Booth, Bovaird &	Seyfang No 12	8
205, H B	Beatty & Co No 10	5
240, Cochran	Bros No 2	5
241, F W	Winger No 6	8
241, do	No 7	8
241, L Kraeer &	Co No 6	7
241, do	No 7	8

Wells completed	26
Production	174
Dry	0

Cooper District.

3,193, lot B, Melvin,	Walker & Co	dry
440, Murphy &	Ray	dry
408, McCalmont Oil Co	No 18	dry
439, do	No 23	15

Wells completed	4
Production	15
Dry	3

Balltown.

750, (Cherry Grove) Porcupine Oil Co	No 33	50
5,215, May, Kelley &	Grandin No 29	30

Wells	2
Production	80

Lower Country.

Venango.

McCalmont, S P	McCalmont	10
Kauffman, Kauffman &	Kugler No 2	5
Columbia, Columbia Farm Oil	Co	20
Oberly, Oberly		10
Mt Hope, Phila & Boston, Shultz &	Bartlet	8
Schock, I H	Shephard & Co No 1	4
McBride, McBride &	Roe	5
Bullion, (Cross farm)	Rumsey & Riddle	dry
do (Crawford),	Hofman & Co	50
do do	Ault & Co	dry
Pin Oak, J B	Smithman No 3	5
McPherson, Oil City Fuel Supply	Co	2
Blood, William	Baker	1
Pastorius, Lufkin	(est)	5
Near Pleasantville, Jamieson &	Co (est)	10
Foster Station,	Neeson	dry
Sulinger, Armstrong, Boyd &	Lee	20

Vicinity Emlenton.

Captain Grant, J P	Crawford	8
Dr Crawford,	Weaver	15
Robinson, Rohinson	(est)	8

Wells	20
Production	186
Dry	3

Clarion.

Deitrick, Youker &	Deitrick	6
Frederick, White, Gifford &	Booth (est)	12
Young, Watson &	Coldren No 2	25
do do	No 3 (est)	12
do Staley &	McDonald No 2	35
do Wood &	McIntyre	35
do Urquhart &	Lavens No 2	35
Fisher, J B	Smithman No 3 (est)	10
Strutman, Pitch Pine Oil	Co	dry
Miller, Sheasley &	Shaffer	dry
Widow Heeter, M E	Hess (est)	5
Goughler, M R	Martin	dry
Dan Kiser, William	Becker	1
Berlin, Berlin &	Son	8

Wells	14
Production	184
Dry	3

Butler and Armstrong.

Oswald, Phillips	Bros	8
Witt, Hite &	Co No 3	50
Witt, H McGuire &	Co	8
Mulligan, H McGuire &	Co No 6	15
Balph, Clark &	Foster	dry
Widow Martin, Sutton &	Sheffield	10
Sang, Dennison &	Hartman	15
Abner Kelley, McKissick &	Adams	6
Daubenspeck, Wheeler &	Story	dry
Kelley Heirs, W J	McKee No 4	30
John Kelley, Wm	Edmunds	30
D P Kelley, McNeese &	Smith	dry
do Brawley	Bros	5
Robert Campbell, Argyle Oil Co	(est)	15
Gibble, J Cramer &	Co	5
Clark, Geasy, Holdship &	Irwin	dry
Hoffman, McTamany & Co	(in third sand	dry
Shira, Sheidemantle		dry

Wells	18
Production	197
Dry	6

Thorn Creek.

Marshall, Fisher Oil Co	No 18	225
Lavery, Phillips Bros	No 1	100
I Wise, do	No 1	dry
Kennedy, Ass. Producers Co	No 22	10
Buhl, do	No 14	10
Sutton & Scully, do	No 20	175
Buhl, do	No 21	350
Buhl, do	No 23,	50
Mangell, Murphy	No 4	350
do Sub div 1,	Murphy & Co	140
do Sub div 10,	Murphy & Co	10
do Sub div 6,	W C McBride & Co	100
do Sub div 9,	Markham & Gardan	500
do Sub div 12 (Barnsdall)	W C McBride & Co	100
do Sub div 13,	Murphy & Co	dry
do K H	McBride & Campbell	55
do Stow lease, div 3,	Connors Fishel & Starr	750
do Stow lease, div 2,	Connors & Fishell (est)	5
do Stow lease, div 5,	I E Ackerly & Co No 3	400
do Thompson &	Bolard No 1	5
do do	No 2	10
do Greenlee &	Co No 4	300
McLaughlin, Clark &	Sutton No 2	45
do Snee &	Co	dry
Morrison Heirs, Clark &	Sutton	dry
Renfrew, Christie	Bros No 2	5
I Wise, Frederick &	Campbell	dry
Reibold, Painter Bros	(est)	5
Kennedy, Christie	Bros No 1	dry

Wells	29
Production	3700
Dry	6

DRILLING WELLS, RIGS UP AND BUILDING MAY 31, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
2,	Coast Oil Co No 32	50
3,	Coyle (old)	rig
4,	McEnroe & Elliott No 5,	250
4,	Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12, do	No 10 (old)	rig
50,	The Union Oil Co No 8 (old)	rig
50, do	do No 9 (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Pickering & Smith	200
1, do	(old)	rig
1,	Applebee Bros No 4	200
1, do	No 5	rig bldg

New rigs	1
Old rigs	9
Drilling	4
Total	14

Alma.

1, Phillips Bros No 14 . . . . . sand
1, do No 15 (old) . . . . rig
23, Vance & Horton (old) . . . . . 3 rigs
24, New Milford Oil Co old) . . . . . 2 rigs
24, W F Jones (old) . . . . . rig
26, Willets & Elliott . . . . . rig bldg
37, Perrin & Young . . . . . drilling
37, do . . . . . 2 rigs
51, Sawyer & Co (old) . . . . . rig
67, W P Decker No 3 . . . . . rig bldg
87, Shirley & Hochstetter No 2 . . . 500
107, do No 8 . . 800
86, Finnegan & Co No 3 . . . . . rig
78, Torry & Pirdun No 2 . . . . . rig
88, Duke & Co (old) . . . . . rig
142, Dean & Smith No 5 (old) . . . . rig
140, Duke, Willets & Rauber No 6 . . 500
79, Kansas Oil Co No 1 1000
120, McCalmont Oil Co No 4 900
120, do do No 5 900
120, do do . . . . . 4 rigs
17, (McCarrison farm) Triangle Oil Co No 15 . . . rig
108, Associated Producers Co No 1 . . 600
106, Thornton & Dobbins No 4 . . . . drilling
106, O'Conner & Shanley No 4 . . . . rig bldg
18, M J McMullan & Co . . . . . drilling

New rigs 12
Old rigs and shut down . . . 10
Wells drilling 11
Total 33

Wirt.

1, McCoy & Whitcomb . . . . . rig bldg
14, Lester & Co. (old) . . . . . rig
33, Miner, Wellman & Fuller (old) . . rig
52, Allegany Gas Co (old) . . . . . rig
34, Skinner farm, H H French & Co . drilling
34, (Woodward farm) J S Patterson No 1 . . . rig bldg
53, (Burdick farm) Wilson Bros & Ackerly No 1 50
33, Miner, Wellman & Fuller . . . . drilling
—, (Hick's farm) Niles Oil Co . . . . rig bldg

New rigs 3
Old rigs. 3
Wells drilling 3
Total 9

Bolivar.

4, (Cole tract) Matson & Caldron (old) . . . . . rig
7, W & J Duke No 17 300
7, Coast Oil Co No 20 (fishing) . . . 700
7, do No 42 50
7, do No 44 (old) . . . . rig
8, Anderson Bros & Bryson No 2 . . 50
8, do do No 3 . . rig
15, Sawyer & Co (old) . . . . . rig
23, F C Streeter & Co No 7 (old) . . . rig
23, Irvin & Morgan No 5 (old) . . . . rig
30, Fritz & Lowry No 8 (old) . . . . rig
30, do do No 10 (old) . . . . rig
31, Smith & Co No 10 (old) . . . . . rig

New rigs 1
Old rigs 8
Drilling 4
Total 13

Clarksville.

9, Heuston & Brecht No 4 (old) . . . rig
9, Merritt (old). . . . . rig
13, Warner & Gleason . . . . . drilling
20, Clarksville Oil Co No 3 300
20, Ackerly & Samuels 700
20, Love & Penzer . . . . . drilling
21, (Holmes farm) Ackerly & Samuels, rig
36, McDougall & Co 1000
—, Angell Oil Co . . . . . rig

New rigs 2
Old rigs 2
Wells drilling 5
Total 9

Genesee.

8, I Willets (to the top of sand . . . . drilling
8, do (to the top of sand) . drilling
14, Merwin (old) . . . . . rig
21, Empire Gas Co No 3 (old) . . . . rig
22, I Willets No 13 (old) . . . . . rig
22, do No 14 (old) . . . . . rig
22, do No 15 (old) . . . . . rig
22, do (old) . . . . . rig
23, Hughes & Coughlin (old) . . . . . rig
23, Emery Oil Co No 16 (old) . . . . rig
23, do do No 17 (old) . . . . rig
Champlain, Emery Oil Co No 8 (old) . rig
29, William Cranston (old) . . . . . rig
31, H L McMullan & Co . . . . . sand
38, S E Young (old) . . . . . rig
38, Empire Gas Co (old) . . . . . rig
14, (Bliss farm) C W Scofield, No 12 . rig bldg

New rigs 1
Old rigs and wells shut down . 15
Drilling 1
Total. 17

Bradford Field.

East and West Branches.

Paton, McClure & Co (old) . . . . . rig
Clark, McCray Bros (old). . . . . rig
Willis, do No 29 (producing) 550
Glass, Barnsdall Bros (old) . . . . . rig
Dent, P C L & P Co No 64 (old) . . . rig
do do do No 65 (old) . . . rig
do Whitney & Wheeler No 40 (old) rig
Mill lot, Whitney & Wheeler No 9 (old) rig
Paul, James Amm & Co No 5 (old) . . rig
Wilson, West Branch Oil Co No 11 (old) rig
Cary, Duncan No 4 (old) . . . . . rig
Mack, Fisher Brothers No 19 (old) . . rig
Kelly, A K Darrow (shut down) . . . sand
Hinchey, McMurray Bros & Co No 6 . (old) rig
Rutherford, J T Jones No 35 800
do do No 36 600
do do No 37 . . . . . rig
J Buchanan, Bettell & Co No 2 400
Warrant 3,908, Unknown . . . . . drilling
Mack, Columbia Oil Co 900
do do . . . . . rig
Stinson, Asher Brown No 11 . . . . . drilling
do do No 12 . . . . . rig bldg
Whittaker, Frank Davis No 3 . . . . rig bldg
Clark, Rolfe Bros No 27 . . . . . rig

Quintuple.

25, O H Strong (old) . . . . . rig
44, J W Humphrey (old) . . . . . rig
220, Clark, Stearns & Co (old) . . . . rig
260, E. T. Howes (old) . . . . . rig

New rigs 5
Old rigs and shut down 14
Drilling 6
Total 25

Kendall Creek.

Melvin, P C L & P Co No 85 (old) . . rig
do do do No 86 (old) . . rig
do do do No 87 (old) . . rig
Borden, Urquhart & Lavens (old) . . rig
Morton, Dan Clark No 3 (old) . . . . rig
do do do No 4 (old). . . . rig
Willets, I Willets (old). . . . . rig
Foster, Larabee & Wheedon No 7 (old) . . . . . rig

New rigs 0
Old rigs 8
Drilling 0
Total 8

Foster Brook.

E T Co, Boyne, Penny & Coleman No 11 (old) rig
do F L Blackmarr & Post No 5 (old) rig
do Utter & Co (old) . . . . . rig
C B & H, Watson Oil Co No 33 . . . . sand
do do do No 34 (old) . rig
do Juter & Yager (old) . . . . . rig
do P W Bulger & Dana No 2 (fishing) 300
do R Y Mitchell 1100
E T Co., O A Childs & Co No 18 . . . rig bldg
C B & H., lot 45, W W White . . . . . rig bldg

New Rigs 2
Old Rigs and shut down 5
Wells drilling 3
Total 10

Four Mile.

Van Campen Wm M Brown (old) . . . rig
do Merrill & Perrin (old) . . rig
do Geo Van Campen & Sons No 21 (old) . . . . . rig
do Geo Van Campen & Sons No 22 (old) . . . . . rig
do Wm Doe No 8 (old) . . rig
Waters, Griffin & Howard No 2 (old) . rig
C B & H, James Smith (old) . . . . . rig

New rigs 0
Old rigs and shut down 7
Drilling. 0
Total. 7

Indian Creek.

Barse, Union Oil Co No 36 (old) . . . . rig
North Branch, J D Downing & Co (old) 2 rigs
Hamlin, Miller & Odell No 4 (old) . . rig
Zimmer, Shear Bros (old) . . . . . rig
Dodge, do No 9 300
do do No 10 . . . . . rig bldg
Weston, J L McKinney & Co (old) . . rig
Morse, Morse & Brown (old) . . . . . rig
Miles Loop, Union Oil Co No 25 (old) rig
Keating, Forest Oil Co No 49 400
Dodge, Fair & Co No 2 . . . . . rig
Keyes, C P Collins & Co . . . . . drilling
Gale, Mallory & Co . . . . . drilling

New rigs 2
Old rigs 8
Drilling 4
Total 14

Cole Creek.

Rew, Capt E Frawley (old) . . . . . rig
Warrant 2263, Union Oil Co No 6 (old) rig
do 2263, do No 7 (old) rig
Bingham, lot 495 do No 3 (old) rig
do lot 578 do No 21, (old) rig
do lot 578 do No 29, 50
do lot 560 do No 30, drilling
do lot 576 do No 32, (old) rig
do lot 576 do No 33, (old) rig
do lot 537 do No 38, 1500
do lot 577 do No 35, drilling
do lot 577 do No 37, sand
do lot 576 do No 38, 1000
do lot 536 do do No 32, rig
do lot 418 do No 27, drilling
do lot 425 do No 28, rig
do lot 557 do No 22, rig
do lot 591 Ass'd Producers Co .
do lot 566 do No 46, (old) rig
do lot 584 do No 48, (old) rig
do lot 585 do No 49, (old) rig
do lot 568 do No 50, 600
do lot — do No 45, 400
do lot — do No 51, rig
do lot 567 Rose, Byron & McLeod (old) . . . rig
do lot 594 Bayne & Fuller No 7 . 50
do lot 590 do No 8, rig
do lot 590 do No 9, rig bldg
do lot 591 T J Melvin No 7, drilling
do lot 591 do No 8 . rig bldg
do lot 565 John McKeown No 3, sand
do lot 565 do No 4, drilling
do lot 577 Rose & McLeod No 3, drilling
do lot 577 do No 4, drilling
do lot 546 C P Byron No 3 . . . 1000
do lot 548 do No 1 . . . rig bldg

New rigs 8
Old rigs 11
Drilling 15
Total 34

Kinzua.

Bingham, lot 20, Union Oil Co No 57 sand
do lot 30, do No 58 rig
do lot 84, Wm Fitzgibbons 1200
do lot 136, P T & W C Kennedy . 800
Niles Tract, Chapin & Co No 6, 500
Hazelwood Pur Hazelwood Oil Co . . rig bldg
Minard Run Tract, Emery Oil Co No 104 800
Warrant 2,268, R J Straight No 13 . . . 1200

New rigs 2
Old rigs 0
Drilling 5
Total 7

Miscellaneous.

Warrant 3732, Beatty, Sherman & Co . sand

New rigs 0
Old rigs 0
Drilling 1
Total 1

Warren and Forest.

Glade and Other Towns.

Kinzua Village, Swift, Porter & Conley drilling
do Marsh, Dr Van Scoy, (old) rig
do English, Parker, White & Co No 3 . . . rig
Wardwell, Benedict & Robinson No 18 200
do do do No 19 100
North Warren Asylum, Hoffman & Eldred . . 300
Elk Twp, (5542) Schnur & Robbins (old) rig
Irvine, Brown Bros No 6 . . . . . rig
Struthers, Fred Hays No 1 . . . . . rig
do do No 2 . . . . . rig
Near Cemetery, S A Logan No 2 . . . 500
Branch, S C Rhodes No 4 . . . . . drilling
Clark, S M Cogswell & Co No 3 . . . sand
Rankin, Fred Hue & Co No 2 . . . . rig
McWilliams, Pickett & Stone No 7 . . 300
Irvine, T. J. Melvin No 3 200
do do No 4 . . . . . rig

Briggs, (Russellburg) Wesley Chambers rig
Rogers, Barnsdall Brothers No 14 (old) rig
do do No 15 (old) rig
do do No 16 (old) rig
Lot 470, do . . . . . drilling
Arnold, Trubey & Co . . . . . sand

New rigs 7
Old rigs 5
Drilling 11
Total 23

Clarendon.

35, Hazeltine & Bell No 5 100
35 and 53, A J Thompson & Co No 3 . drilling
do do No 4 . drilling
do do No 5 . drilling
do do . . . . rig
53, Union Oil Co No 26 . . . . . rig bldg
35, J Smith & Son No 2 . . . . . drilling
35, Windsor No 1 . . . . . rig
54, D Beatty & Son No 36 (old) . . . rig
78 do do (old) . . . . . 2 rigs
496, do do . . . . . rig
496. P Kratzer No 4 100
465, Wm Pagett No 4 . . . . . rig bldg
80, Thayer & Crosby . . . . . drilling
464, Columbia Oil Co No 16 100
499, Munroe & Finnegan No 5 . . . . . sand
499, E. O'Donnell No 4 300
406, Golden & Co (old) . . . . . rig
107. W B Roberts & Co No 14 . . . . sand
107, do do . . . . . 2 rigs
108, C H Filkins (old) . . . . . rig
195, W W Ballard (old) . . . . . rig
494, Patterson & Solliday No 11 . . . . drilling
457, Goal Bros No 6 . . . . . rig
558, do No 8 500
558. do No 10 200
558, do No 11 . . . . . rig
558, J S Patterson No 2 200
557, Dyson & Lowden No 8 . . . . . rig
583, F. H Rockwell & Co No 15 . . . 100
5583, do No 16 (old) . rig
592, Clark, Foster & Co No 2 400

New rigs 11
Old rigs 6
Drilling 17
Total 34

Tiona.

59, Fertig & Henne (shut down) . . . sand
104, do No 1 . . . . . sand
104, do No 2 . . . . . rig
110, do No 27 . . . . . drilling
110, do No 28 . . . . . drilling
110, do No 29 . . . . . drilling
110, do No 30 . . . . . drilling
110, do No 31 . . . . . rig
109, O'Donnell, Hill & Co No 3 . . . . rig bldg
109, J. R. Kuhn & Co No 8 . . . . . sand
109. do do No 9 . . . . . rig
109, O F Schoublom No 9 . . . . . drilling
111, E O Emerson No 1 . . . . . rig
161, Helm & Mealey No 11 . . . . . rig
161, Charles Dunham No 6 . . . . . rig
165, Whitehill & Co No 9 100
164, (Gerner) Hill & Powell No 2 . . . sand
164, do do No 3 . . . rig
164, do do No 4 . . . rig
201, L H Best No 4 . . . . . rig
201. Wesley Chambers No 6 300
201, do No 7 . . . . . rig
202, Mandell Oil Co No 2 . . . . . rig
202, E O Emerson No 3 . . . . . drilling
204, W J Wood & Co No 7 . . . . . drilling
204, (Farnsworth) E O Emerson No 9 . rig
204, Booth, Bovaird & Seyfang No 13 . 100
204, do do No 14 . rig
205, Bright & Co (old) . . . . . rig
205, H B Beatty & Co No 11 600
205, do No 12 . . . . . rig
206, F G Keatley No 3 . . . . . drilling
240, (Tidewater) E O Emerson No 2 . sand
240, Kirk Bride & Birney . . . . . rig
240, Cochran Bros No 3 . . . . . rig
241, F. W. Winger No 8 300
241, do No 9 . . . . . rig
241, L Kraeer & Co No 3 (old) . . . . rig
241, do No 8 . . . . . sand
241, do No 9 . . . . . rig
241, do No 10 . . . . . rig
243, Cochran Brothers No 1 100
281, Horton, Crary & Co No 1 . . . . drilling

New rigs 20
Old rigs and shut down 3
Drilling 20
Total 43

Cooper District.

401, Anchor Oil Co . . . . . drilling
408, McCalmont Oil Co No 19 . . . 300
408, do . . . . . 2 rigs
439, do No 25 . . . rig
407, Shank & Stewart No 5 . . . . . sand
407, do do No 6 . . . . . rig
2735, Reno Oil Co No 7 1000
Fox Estate, Campbell, Hazelton & Co No 2 . . . . . drilling

New rigs 4
Old rigs 0
Drilling 5
Total 9

Balltown.

3194, Porcupine Oil Co No 21 (old) . . rig
3194, do No 34 200
3195 Proper Reserve Oil Co No 8 . . rig
4821, Balltown Oil Co No 23 (old) . . . rig
4821, do do No 24 (old) . . . rig
4821, do do No 25 (old) . . . rig
4792, Howe Oil Co No 17 (old) . . . . rig
4792, do do No 18 (old) . . . . rig
5215, May, Kelly & Grandin No 32 . . . 400
5215, do do No 33 . . . rig

New rigs 2
Old rigs 6
Drilling 2
Total 10

Miscellaneous.

Limestone Twp, 5225, A M O'Donnell & Co . . . . rig
Wetmore do 374, H. Landsrath . . drilling
Watson do 576, Dr Heath & Co . drilling
Pleasant do 540, A L Kern . . . . rig bldg
Cherry Grove, 664, Howard Thompson & Jones . . . . drilling
West Hickory, (McIntyre) Jas E Cochran . . drilling
Elk Co., Rolf, White & Co 600
Forest Co, 5214, May, Kelly & Grandin rig
do 5214, James Goff . . . . . rig bldg
New rigs 4
Old rigs 0
Drilling 5
Total 9

Lower Country

Venango.

McCalmont, S P McCalmont . . . . . drilling
do do . . . . . 2 rigs
McCormick, Dale & Stephenson . . . 2 rigs
Gates, Fisher Oil Co 500
Long, W H Dufur 100
Columbia, Columbia Farm Oil Co . . . 100
Button, J B Smithman . . . . . rig bldg
Mt Hope, J Carner, Shepherd & Co No 1 300
do do do . . rig
do do do . . rig bldg
Pin Oak, J B Smithman No 4 300
Nuhfur, Oil City Fuel Supply Co fishing 1000
McClintock, William Orr . . . . . rig
Tarr, Stewart & Co . . . . . rig
Siverly, Shingledecker . . . . . rig bldg
Stuffey, M C Martin 300
do do . . . . . rig bldg
Bullion, Porter Porter . . . . . rig
Kellerman, Hovis . . . . . drilling

Rockland.

Wellesby, Armstrong, Boyd & Lee No 1 sand
Lusher, do do No 1 200
Lefevre, do do . . . rig
Ham Davis, do do . . . rig bldg
Young, do do . . . rig bldg
Lovell, Anchor Oil Co 100
Ham Davis, Ham Davis 300

Vicinity Emlenton.

Jew farm, Jamison & Co 200
Sloan, Sherry & McKnight No 3 . . . rig bldg
Royal, Flynn Bros . . . . . drilling
Cross, S. Phillips (fishing) 1100
A Middleton, Pattorf Bros . . . . . rig
Robinson Pugh . . . . . drilling
—— Porterfield & McCombs . . . . . rig bldg
—— Messer . . . . . rig bldg
Robinson, E Robinson & Co 900

New Rigs 19
Old Rigs 0
Wells drilling 18
Total 37

Clarion.—Cogley Run.

Young, Watson & Caldron No 4 . . . rig
do J H Koch 800
do Staley & McDonald No 3 . . . . rig
do do No 4 . . . . rig bldg
do Wood & McIntyre . . . . . rig bldg
do Urquhart & Lavens No 3 . . . 400
do do do No 4 . . . rig
Fisher, J. B Smithman No 4 . . . . . rig
do do No 5 100
Strutman, Young Farm Oil Co No 2 . rig bldg
Shippen, Patterson & Leedom No 1 . drilling
Berlin, do do No 2 . 800
Levi Kale, Staley & McDonald 800
Bachus, Bachus Farm Oil Co 300
M P Hess, Gillespie & Tomlinson . . rig bldg
L M Kahl, P J Flynn . . . . . rig bldg
Young, Roess Brothers 300
do Young & Son . . . . . rig
do Young Farm Oil Co No 2 . . . 800
do McClellan, —— . . . . . rig
do Young Farm Oil Co No 3 . . . rig
do do do do No 4 . . . rig bldg
M P Hess, Koch Bros . . . . . rig bldg
O'Gara, Crawford & Brother . . . . . rig bldg
Bassett, Bassett & Co 400
Shorts, Judd, Lewis & Co . . . . . rig
Greer, Ago & Co . . . . . rig bldg
Eli Ropp, Austin Horr . . . . . rig
Chas Lineman, Unknown . . . . . rig bldg
Buzza, M E Hess . . . . . rig bldg
Strutman, Young Farm Oil Co . . . . sand
Shippen, Fertig & Henne . . . . . sand
Kennemuth, Moore, Howe & Co . . . sand

Various Sections.

Piney, Whitehill Bros . . . . . rig
Rimersburg, Mortimer, Hite & Co . . 300
Collensburg Vicinity, Marshall & Co . drilling
West Edenburg, Kribbs & Simpson . rig
Mehrton, John Mehrton 600
Panton, Panton (old) . . . . . rig
Smith, Jacob Hahn . . . . . sand
do do . . . . . 2 rigs
Allen, Foxburg Gas Co . . . . . drilling

New rigs 24
Old rigs 1
Drilling 18
Total 43

Butler and Armstrong,

Herman Station, Eichenlaub, Fisher Oil Co . . 1600
Michael, Hunter & Cummings 900
McCray do No 2 . . 400
Leithold, do No 1 . . 800

St. Joe.

Neff, Phillips Bros No 3 1300
do do No 4 900
Crouse, do No 3 . . . . . sand
Muenster, do No 7 . . . . . sand
do do No 8 800
do do No 9 300
Mrs Witt, McGuire No 2 400
L Witt, Greenlee & Co No 3 600
Sales, McGuire & Co No 1 . . . . . rig bldg
R S Millinger, Columbia Oil Co . . . drilling

Martinsburg.

Abner Kelley, Pres Black & Co . . . rig
Archibald Kelly, Hooks Bros No 4 . . 600
do Adams & Co No 2 . . . 300
John Kelly, Kelly & Edmonds 100
Wm Story, Bovaird & Beatty . . . . rig
W P Black, Meldren & Devitt . . . . rig
Thos Cannon, Short & Co . . . . . rig
Turner, W J McKee 200
Fletcher, do 100

Various Sections.

Jennings, R Jennings 900
Griffin, Millerstown Oil Co 1300
Callery Station, Pittsburg Parties (old) rig
Bredin, Gibson & Gahagan 600
Gibble, J Cramer & Co . . . . . rig bldg
Seibert, Seibert Bros No 2 (fishing) . . sand
Seibert, R Jennings (old) . . . . . rig
Kramer, W A Dennison (old) . . . . . rig bldg
Ritzart, Boyle & Co 400
McClelland, A Crittenden . . . . . rig bldg
Brownfield, Snee & Co . . . . . rig bldg
S M Wiles, Showalter 100
Mrs Ott, H L Westerman & Co . . . 100
Barney McLaughlin, Donohue & Co . 500
W L Brown, Morrison & Co . . . . . rig bldg
Campbell, J W McFarland & Co . . . 700
Fryer, Fryer 500
Mathew Bicket, Pittsburg Parties . . . drilling
McKinney, Lockwood & Co . . . . . sand
Ifft, Chas Neeley & Co . . . . . rig

Wild Cat Operations.

Brady Twp, Bredin & Donaghy, Armstrong, Boyd & Co . . rig
Muddy Creek Twp, Garvey, Armstrong, Boyd & Co . . 300
Muddy Creek, Fisher Oil Co 400
Semicolon Run, Galloway, Christie & Hays (fishing) 900
Wm Kelly, Gibson & Co 850
Hilliard Heirs, (near Murraysville,) Stage & Co 800
J Smith, (Cherry Twp) Donaghy & Co 1000

Harrison, (Jefferson Twp) Hatch & Co rig
Denny, (Winfield Twp) do rig
McC———, Brown & Co 300
Sarvier Station, Kiskaddan . . . . . rig
Frazier's Mills, Karns & Co . . . . . rig
Garvey, Hall & Dobson 100
Rider, (Buffalo Twp) Wm Fleming & Co . . . . . rig

New rigs 16
Old rigs 3
Wells drilling 38

Total 57

Thorn Creek.

Marshall, Fisher Oil Co., No 11(fishing) sand
do do No 15)fisbing) sand
do do No 19 1350
Mushrush, Phillips Bros No 11 (fishing) 1450
Lavery, do No 2 1000
do do No 3 1600
do do No 4 1500
do J H Markham No 2 1500
do do No 3 500
do do No 4 . . . . . rig
do Stewart & Klingensmith No 1 200
Ben Lavery, Phillips Bros No 1 . . . . rig
do do No 2 1400
Troutman, Smith & Co 1200
Troutman, Phillips Bros . . . . . 2 rigs
Kennedy, Assoc'd Producers (fishing) No 17 . . . . . sand

Buhl, do (fishing) No 7 . sand
do do No 16 . 1600
do do No 24 . 1300
do do No 25 . 1325
do do No 26 . 1400
do do No 27 . rig
Mangel, Murphy No 2 (fishing) 1600
do do No 6 . . . . . sand
do Murphy & Co 50 acre Pur Sub
do Div 3, Markham & Co . . 1500
do W C McBride & Co Sub Div 7 sand
do do Sub Div 8 McClung & Co sand
do do Sub Div 15 Murphy & Co (shut down) 450
do do Sub Div 16 Murphy & Co (shut down) 112
do K H McBride & Co No 2 . . . sand
do do No 3 . . . 300
do do No 4 . . . rig
do Stow Lease Sub Div 4, McBride & Co (fishing) sand
do do Sub Div 6, I E Ackerly & Co No 4 . 1450
do do Sub Div 7, I E Acker, ly & Co No 7 . rig
Girard, I E Ackerly No 5 1550
do do No 6 1200
Mangel, Thompson & Bolard No 3 . . sand
do do No 4 . . 200
do Stewart & Co (old) . . . . . rig
do Greenlee & McIntyre No 1 (fishing) . . . sand

do do No 2 . . sand
do do No 3 . . sand
Wise, K H McBride & Campbell . . . sand
Noel, H H Stow & Clark No 2 150
do do No 3 800
do do No 4 200
McLaughlin, Bennett & Hoffman . . 300
Morrison, C. W. Turner (old) . . . . rig
J E Maharg, O M Russell . . . . . sand
Hartman, Boden, Aiken & Co No 1 . sand
do do do No 2 . 1400
do do do No 3 . 1300
do Stewart & Co (shut down) . 600
Chris Mangel, do (shut down) . 600
Renfrew, Ireland & Hughes 1000
do Renfrew & White No 1 . . . 1200
Henderson Heirs, Johnson Bros No 3 400
McElwaine, Lappe & Co 1200
Kennedy, Christie Bros No 2 1150
Mates, Kifer & Lappe No 2 1550
do do No 3 1200
do do No 4 . . . . . rig
do do No 5 100
Wallace, Wheeler & Co 300
Dicky, Baldridge Oil Co . . . . . rig bldg
Buel, Clark & Foster . . . . . rig bldg
Maharg, E H Barnum & Co . . . . . rig bldg

New rigs 12
Old rigs 1
Drilling 56

Total 69

FIELD OPERATIONS SUMMARIZED.

Wells Completed, With the Estimated Production on the Last Day of the Month.

ALLEGANY.

Division of Field.	MAY, 1885. Wells.	Prod'n.	Dry.	APRIL, 1885. Wells.	Prod'n.	Dry.
Scio	5	23	1	0	0	0
Alma	9	49	1	3	15	0
Wirt	5	22	0	1	2	0
Bolivar	3	26	0	2	13	0
Clarksville	2	11	0	3	18	0
Genesee	1	8	0	0	0	0
Miscellaneous	2	0	2	1	0	1
Total	27	139	4	10	48	1

BRADFORD FIELD.

Division of Field.	MAY, 1885. Wells.	Prod'n.	Dry.	APRIL, 1885. Wells.	Prod'n.	Dry.
E. & W. Branches	7	73	0	3	34	0
Kendall Creek	1	8	0	0	0	0
Foster Brook	2	13	0	3	21	0
Four Mile	2	18	0	1	8	0
Indian&Meeks Cr'ks	3	28	0	1	5	0
Cole Creek	18	445	0	15	495	0
Kinzua	4	18	2	1	15	0
Total	37	603	2	24	578	0

WARREN AND FOREST.

District.	MAY. Wells.	Prod'n.	Dry.	APRIL. Wells.	Prod'n.	Dry.
Glade	13	60	4	12	55	3
Clarendon	22	140	0	11	70	0
Tiona	26	174	0	20	127	1
Cooper	4	15	3	0	0	0
Balltown	2	80	0	2	25	0
Miscellaneous	0	0	0	0	0	0
Total	67	469	7	45	277	4

LOWER COUNTRY.

District.	MAY. Wells.	Prod'n.	Dry.	APRIL. Wells.	Prod'n.	Dry.
Venango	20	186	3	9	50	3
Clarion	14	184	3	7	55	1
Butler and Armstrong	47	3897	12	36	3648	3
Total	81	4267	18	52	3753	7

GRAND SUMMARY.

District.	MAY. Wells.	Prod'n.	Dry.	APRIL. Wells.	Prod'n.	Dry.
Allegany	27	139	4	10	48	1
Bradford	37	603	2	24	578	0
Warren and Forest..	67	469	7	45	277	4
Lower Field	81	4267	18	52	3753	7
May Total	212	5478	31	131	4656	12
April Total	131	4656	12			
Increase	81	822	19			

Rigs Up and Building.—Wells Drilling.

ALLEGANY FIELD.

Division of Field	MAY 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Scio	1	9	4	14	2	11	3	16
Alma	12	10	11	33	13	11	6	30
Wirt	3	3	3	9	1	3	3	7
Bolivar	1	8	4	13	2	8	4	14
Clarksville	2	2	5	9	2	2	3	7
Genesee	1	15	1	17	1	15	1	17
Miscellaneous	0	0	0	0	2	3	2	7
Total	20	47	28	95	23	53	22	98

BRADFORD FIELD.

Division of Field.	MAY 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.
E. & W. Branches	5	14	6	25	5	20	4	29
Kendall Creek	0	8	0	8	0	7	1	8
Foster Brook	2	5	3	10	1	7	2	10
Four Mile	0	7	0	7	2	6	2	10
Indian Creek	2	8	4	14	2	7	3	12
Cole Creek	8	11	15	34	16	6	18	40
Kinzua	2	0	5	7	3	0	3	6
Miscellaneous	0	0	1	1	1	0	2	3
Total	19	53	34	106	30	53	35	118

WARREN AND FOREST.

Division of Field.	MAY 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Glade	7	5	11	23	10	6	9	25
Clarendon	11	6	17	34	7	11	14	32
Tiona	20	3	20	43	21	7	11	39
Cooper	4	0	5	9	1	1	3	5
Balltown	2	6	2	10	1	6	2	9
Miscellaneous	4	0	5	9	3	0	2	5
Total	48	20	60	128	43	31	41	115

LOWER COUNTRY.

Division of Field.	MAY 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Venango	19	0	18	37	12	1	16	29
Clarion	24	1	18	43	12	3	12	27
Butler & Armstrong	28	4	94	126	30	7	97	134
Total	71	5	130	206	54	11	125	190

GRAND SUMMARY.

Field.	MAY 31, 1885. New Rigs	Old Rigs.	Drilling.	Total.	APRIL 30, 1885. New Rigs	Old Rigs.	Drilling.	Total.
Allegany	20	47	28	95	23	53	22	98
Bradford	19	53	34	106	30	53	35	118
Warren & Forest	48	20	60	128	43	31	41	115
Lower Country	71	5	130	206	54	11	125	190
Total May 31	158	125	252	535	150	148	223	521
Total April 30, '85	150	148	223	521				
Difference	8	23	29	14				

STOCKS ABROAD.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

Stocks Afloat and Ashore.	May 30, 1885. Barrels.	Apl. 25, 1885. Barrels.
London	120,042	132,272
Trieste	29,465	. . .
Seven Continental Ports	1,146,096	906,032
Total Stocks afloat and ashore	1,295,603	1,038,304
Increase in Stocks since April 25	257,299	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1885. The shipments represent the amount of oil going to the interior of Europe from the seaports.

STOCKS IN FOREIGN PORTS MAY 30, 1885.

	Stocks W'k end'g May 30.		Stocks Afloat W'k end'g May 30.		Loading. W'k end'g May 30.		Grand Total Stocks Afloat & Loading.		Receipts. From July 1.		Shipments From July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	244,487	64,899	6,519	47,843	. . .	7,300	251,006	120,042	457,077	553,401	562,935	568,728
Trieste	42,865	14,465	. . .	. . .	. . .	15,000	43,865	29,465	209,158	97,952	152,970	122,995
Bremen	780,347	393,104	61,155	27,187	65,200	64,500	906,702	484,791	771,209	564,539	885,489	968,016
Hamburg	135,702	92,999	86,840	92,667	66,000	90,900	288,542	275,566	799,912	914,702	997,317	995,068
Antwerp	122,964	79,101	45,850	15,262	30,700	50,500	199,515	144,863	794,610	950,970	882,014	997,839
Rotterdam	51,908	34,316	21,713	20,897	6,700	47,300	80,321	102,513	194,434	218,516	219,310	242,145
Amsterdam	54,407	33,477	7,722	9,179	8,000	18,500	70,129	60,156	269,468	228,397	251,904	237,930
Stettin	22,589	16,665	29,817	26,900	21,900	24,700	65,306	68,265	205,616	228,856	251,368	253,809
Danzig	2,687	3,006	9,658	6,936	. . .	. . .	12,345	9,942	67,321	71,312	78,279	80,417
Total	1,170,304	651,668	253,755	198,028	198,500	296,400	1,622,859	1,147,096	3,102,570	3,177,292	3,563,691	3,775,224

	1882.	1883.	1884.	1885.
Total stocks exclusive Trieste	1,336,936	1,544,664	1,415,091	716,567
Total afloat, exclusive Trieste	316,426	509,426	260,274	245,871
Total loading, exclusive Danzig, London and Trieste	180,200	271,600	198,500	303,700
Total	1,833,562	2,315,690	1,873,865	1,266,138
Afloat and loading for direct Continental Ports	34,000	82,900	24,300	. . .
" " " Baltic Sea, exclusive Stettin and Danzig	39,000	41,500	36,540	83,800
" " " English harbors, exclusive London	86,000	75,750	58,200	29,000
Grand Total	1,991,562	2,475,840	1,992,865	1,378,938

OFFICIAL STATEMENT, EXPORTS OF PETROLEUM, APRIL, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., JUNE 1, 1885.

CUSTOMS DISTRICT.	MINERAL CRUDE.		NAPHTHAS.		ILLUMINATING.		LUBRICATING AND PARAFINE OIL.		PESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
Boston & Charlestown Mass	. . . .	. . . .	150	37	538,130	62,810	56,380	10,507	84	31	594,744	73,385
New York, N. Y.	3,391,699	272,087	675,970	46,311	19,022,798	1,677,370	1,074,512	235,213	210	16	24,165,189	2,230,997
Philadelphia, Pa.	3,294,824	247,352	655,797	43,302	10,494,977	876,547	8,736	1,539	177,870	7,923	14,632,204	1,176,663
Baltimore, Md.	. . . .	. . . .	. . . .	. . .	372,792	29,923	10,166	1,581	168,756	7,665	551,714	39,169
San Francisco, Cal.	. . . .	. . . .	5,850	2,048	31,440	7,020	513	338	. . . .	. . . .	37,803	9,406
All other districts	90	9	3,445	374	118,656	17,800	5,417	2,275	. . . .	. . . .	127,608	20,458
Total for April, 1885	6,686,613	519,448	1,341,212	92,272	30,578,792	2,671,470	1,155,724	251,453	346,920	15,635	40,109,262	3,550,078
Total for April, 1884	5,218,426	452,946	41,962	6,193	26,491,848	2,598,274	1,023,793	202,666	487,116	32,347	33,263,145	3,292,426
Total for 10 months, ended Aprll 30, 1885	69,717,969	5 094,986	13,398,906	1 081,074	370,647,018	32,490,469	10,407,497	2 157,987	4,594,758	254,548	468,766,148	41,079,064
Total for 10 months, ended April 30, 1884	55,380,467	4 365,174	13,007,236	898,329	335,182,727	30,861,068	8,963,513	1 855,684	4,440,492	291,989	416,974,435	38,272,244

CRUDE QUOTATIONS FOR MAY, 1885.

Day of Month and Week.		Bradford.				Oil City.				New York.				Pittsburgh.			
		Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.	Opened.	Highest.	Lowest.	Closed.
F	1	81	81	79	79	80⅞	81	79	79⅛	81¼	81¼	79	79⅛	80⅞	80⅞	79	79
S	2	79	79⅛	78½	78⅞	79⅛	79⅛	78½	78⅞	79	79¼	78½	79	79	79⅛	78½	78⅞
M	4	78⅞	79¼	77⅝	77⅝	79	79¼	77¾	77¾	78⅞	79¼	77½	77⅝	78⅞	79¼	77¾	77¾
T	5	77	78⅛	77	77⅝	77⅜	78⅛	77	77⅝	77	78⅛	77	77⅝	77	78⅛	77	77⅝
W	6	77⅞	78¼	77⅝	78¼	77¾	78¼	77¾	78¼	77¾	78¼	77⅝	78¼	78	78¼	77¾	78⅛
T	7	78⅜	78½	76¾	77¼	78⅜	78½	76¾	77¼	78⅜	78½	76¾	77⅜	78⅜	78½	76⅞	77⅜
F	8	77¼	77¾	77	77½	77⅛	77¾	76⅞	77½	77¼	77⅞	77	77½	77¼	77¾	77⅛	77⅜
S	9	77¾	78⅝	77⅜	78½	77⅝	78¾	77⅜	78½	77¾	78¾	77¾	78¾	77⅝	78⅝	77⅝	78½
M	11	78⅞	79½	77⅞	78⅛	78⅞	79½	78	78	79	79½	78	78⅛	79	79½	78	78⅛
T	12	78⅛	78⅞	78	78⅝	78¼	79	78	78⅝	78¼	78⅞	78	78⅝	78⅛	78¾	78⅛	78⅝
W	13	78¾	78¾	78¼	78⅜	78¼	78⅝	78¼	78⅜	78⅞	78⅞	78¼	78½	78¾	78⅞	78¼	78⅜
T	14	78⅝	78¾	78	78½	78⅜	78¾	78	78⅝	78½	78¾	78	78⅝	78⅜	78¾	78	78⅝
F	15	78¾	79¼	78⅜	79	78⅝	79⅛	78½	79	78¾	79⅛	78½	79	78¾	79⅛	78½	78⅞
S	16	79½	80¼	79¼	80	79⅜	80⅛	79¼	80	79⅜	80¼	79¼	80	79½	80⅛	79⅜	80⅛
M	18	80⅜	80⅝	79⅛	79⅜	80¼	80⅝	79¼	79½	80⅜	80⅝	79¼	79⅜	80½	80½	79¼	79⅜
T	19	79⅜	79⅝	79¼	79⅜	79½	79⅞	79⅜	79½	79½	79¾	79⅜	79½	79½	79⅝	79¼	79½
W	20	79½	79½	79¼	79¼	79½	79⅜	79¼	79⅜	79½	79⅞	79¼	79⅜	79½	79½	79¼	79⅜
T	21	79⅜	80½	79⅜	80	79½	80⅝	79½	80	77½	80⅝	79⅜	80	79½	80⅝	79½	80⅛
F	22	79⅞	81¼	79½	80½	80	81⅜	79¾	80⅞	80	81¼	79¾	80¾	79¾	81¼	79¾	80¾
S	23	81¼	81¼	80½	80⅝	81	81⅜	80½	80½	81½	81⅜	80½	80⅜	81	81¼	80½	80⅞
M	25	80⅜	81¼	80	81	80⅞	81½	80⅛	81	80¾	81¼	80	81	80⅜	81¼	80⅛	81
T	26	80⅞	81¼	80½	80½	81	81⅛	80½	80½	81	81¼	80½	80⅜	80⅞	81⅛	80⅜	80⅜
W	27	80½	80¾	80¼	80½	80½	80¾	80¼	80½	80½	80¾	80¼	80⅜	80½	80⅝	80⅜	80⅜
T	28	80⅞	80⅞	80⅜	80⅜	80½	80⅞	80⅜	80⅜	80⅞	81	80⅜	80½	80¾	80⅞	80½	80⅜
F	29	80¼	80⅜	79⅜	79⅜	80⅜	80⅜	79¼	79¼	80⅜	80⅜	79½	79⅝	80⅜	80½	79½	79½
S	30	HOLIDAY.				HOLIDAY.				HOLIDAY.				HOLIDAY.			

CHRONICLES OF THORN CREEK FOR MAY.

Public interest in the Thorn Creek development is fast waning with the fading glory of the field. The scouts are still busy, recording the progress of the drill on the southeastern extension, but the story is becoming more and more monotonous. The size of the torpedo necessary to start the later wells has grown to greater and greater proportions; but their effect is only momentary, and the wells are kept producing at an expense that eats a large hole in the incomes their owners anticipated from them.

With the completion of the wells now under way, the importance of Thorn Creek, as an item in the production of petroleum and an element in holding down the price of crude, comes to a termination. After the failure of Murphy & Co.'s well, on Division 13, of their 50-acre purchase of the Mangel, several wells in different stages of progress on the south were abandoned. The scouts then christened the checker-board the "faro lay out." Wells have been completed on the ace, tray, eight, nine, ten spot and the queen. McBride's wells are on the six and seven spots. The king was dry, and the deuce, jack, four and five spots are expected to turn out the same way. The scouts gauges for May show a total production of 229,334 barrels, or a daily average of 7,388; as compared with 285,176 barrels, and an average of 9,506 barrels a day in April. The principle events in the history of the field since May 12, are recorded briefly as follows:

McBride & Campbell No. 1, on the Mangel farm, was drilled through the sand May 14th, and shot with 120 quarts on the 15th. It threw out the salt water, and on the 26th, produced 85 barrels of oil in 24 hours. It gauged 40 barrels June 13th.

The Barnsdall well drilled through the sand May 12th (owned by W. C. McBride and others), on Division 12 of Murphy & Co.'s Mangel purchase, was shot May 14th, and made a small flow. It was set to pumping at once, and on the 23d made 35 barrels. Its output was increased to 120 barrels on the 30th; but a week later it had dropped to 40 barrels, and on June 13th, was producing nothing at all.

Murphy & Co.'s well on Division 1, of their 50-acre purchase of the Mangel, made 83 barrels May 14th, when 20 feet in the sand. On the following day, deeper drilling increased the production to 12 barrels an hour. On the 17th, when drilled through the sand, it made 25 barrels an hour. On May 23d, its production was 312 barrels, and on May 30th, 178 barrels. It stopped producing a week later, and on June 7th the casing was drawn and a torpedo inserted. A large quantity of glycerine was poured into the hole around the shells, but the shot had little effect. On the 13th inst. it was doing nothing.

Connors, Fishell & Starr drilled their well on Division 3, of the Stow lease of the Mangel, through the sand on the 14th of May, and shot it the next day with 150 quarts. The response was light, and the sucker-rods were inserted. On the 21st it began flowing through the casing while pumping salt water through the tubing. At 11 A. M., it made a flow of 10 barrels; and at 3 P. M., was flowing 65 barrels an hour. On the 22d, it was flowing 74 barrels an hour in the morning, and 66 barrels in the afternoon. On the 23d, it averaged 54 barrels an hour. It made 768 barrels on the 30th; 312 barrels June 6th; and 192 barrels June 13th.

Murphy & Co.'s well on Division 10, of their Mangel purchase, was 30 feet in the sand May 16th, with a poor showing; and on the 21st was making 20 barrels a day. It gauged 35 barrels May 23d, and 15 barrels May 30th. On June 6th it had stopped producing, and has done nothing since.

Associated Producers' Co. No. 21, on the Buhl farm, was finished and shot on May 18th. It had 700 feet of fluid in the hole, which was not thrown out. May 21st it was making 18 barrels an hour. On May 30th it produced 465 barrels; and on June 6th, 383 barrels; and on June 30th, 222 barrels.

Fisher Oil Co. No. 18, on the Marshall tract, was drilled through the sand May 19th. Located south of Thorn Creek, and 500 feet east of No. 9, which was a dry hole, it found only 4 feet of producing sand. It was pumping salt water on the 24th, and on the 30th it made 227 barrels of oil. It had fallen off to 120 barrels June 13th.

I. E. Ackerly & Co. No. 3, on Division 5, Stow lease of Mangel, was drilled through sand May 20th. It was shot the next day without response. On the 24th it began pumping 100 barrels a day.

Phillips Bros. No. 1, on the Lavery, was 30 feet in sand May 21st, and flowing by heads; making 45 barrels first 12 hours. It was shot and made 210 barrels the 23d. On the 26th, a second shot was inserted without improvement. It made 110 barrels on the 30th; 25 barrels June 6th; and 45 barrels June 13th.

Markham & Gartlan's well on Division 9, of the Murphy–Mangel lay-out, began flowing by heads May 25th, when 8 feet in the sand. On the following day it was flowing 28 barrels an hour. On the 30th it averaged 24, and on June 2d, 15 barrels an hour. It was down to 8 barrels an hour June 6th.

Connors & Fishell well on Division 2, of Stow lease of Mangel, 400 feet south of No. 1, was drilled through 37 feet of inferior sand rock May 25th. It was shot with 80 quarts—without results—on the 28th, and has produced no oil up to June 13.

Fisher Oil Co.'s No. 11, on the Marshall farm, after completing a long and serious fishing job, was shot without any response on May 29th. It was tubed on the 31st, and set to pumping off the salt water. It made 45 barrels June 6th. The sand was struck at this well May 11th.

Associated Producers' No. 14, on the Buhl, was shot with 10 quarts May 29th, and started at 20 barrels the first hour. The next day it gauged 11 barrels, and on June 13th made but 8 barrels. This well showed very poorly when drilling in the sand May 2d, and was set to pumping.

Associated Producers' No. 22, on the Kennedy, was drilled through the sand May 26th. When put in producing order, it gauged 10 barrels May 30th; 25 June 6th; and 55 barrels June 13th. It started at 25 barrels an hour May 1st.

W. C. McBride & Co.'s No. 3, Division 7, Murphy–Mangel purchase, was 25 feet in sand May 27th, and flowing at the rate of 25 barrels an hour. On June 1st it was making 30 barrels, and June 3d, 20 barrels an hour. It gauged 216 barrels for 24 hours ending at 9 A. M., June 13th.

Clark & Sutton's No. 2, on D. McLaughlin farm, tubed and started May 24th, was pumping 75 barrels a day May 27th. May 30th it produced 45, and June 13th, 30 barrels.

Greenlee & Co.'s No. 3, on their lease of the Mangel farm, in the sand and showing light, May 29th. It was shot June 1st, without responding.

Greenlee & Co.'s No. 4, on Mangel, started flowing by heads at the rate of 20 barrels an hour, May 29th; dropped down to 14 barrels an hour on the 30th. On June 6th gauged 72, and June 13th, 102 barrels.

Associated Producers' No. 23, was shot on June 1st, and made a fair response. It made 18 barrels June 6th, and 30 barrels June 13th.

W. C. McBride & Co.'s No. 2, Division 6, of Murphy–Mangel purchase, was shot with 10 quarts June 2d, and started at 20 barrels an hour. It gauged 9 barrels an hour June 3d, and produced 160 barrels June 6th, and 111 barrels June 13.

K. H. McBride & Campbell's well, on the Wise lot, adjoining J. H. Markham lease on the east, was 35 feet in a fine, dark sand, June 3d. It was shot June 5th, but made no response. On June 9th it was pumping considerable water, and on the 11th produced 20 barrels, and on the 13th, 19 barrels of oil.

Fisher No. 19, Marshall, reached the sand June 1st. On the 3d, it was 18 feet in sand, and flowing 25 barrels an hour. On the 6th it produced 288, and on the 13th, 56 barrels. It was shot June 14th, and production raised to 200 barrels.

Bolard & Thompson No. 3, on their purchase of the Mangel farm, was shot June 3d without responding, and was making 10 barrels on the 13th.

K. H. McBride and Campbell's No. 2, on the Mangel, was 15 feet in the sand June 7th. It made 19 barrels of oil June 13th.

Kelly & McClung well, on Division 8, of Mangel, reached sand and began flowing by heads May 31st. It made 25 barrels an hour June 1st, and dropped off to 14 on the 3d. June 6th it produced 240, and June 13, 156 barrels.

Russell & Co.'s well, on the J. E. Maharg farm, was 20 feet in sand June 7th, and began pumping June 9th. It pumped 30 barrels June 30th.

Phillips Bros.' No. 4, on the Lavery, was drilled through the sand and started at 8 barrels an hour June 9th. It made 7 barrels an hour June 11th, and 6 barrels June 13th.

Boyd & Co.'s No. 2, on the Marshall, completed last April, started up after producing 152 barrels May 16th, at 21 barrels an hour on the 18th of May, and averaged 14 barrels an hour on the 23d.

DRY HOLES.

The Frederick & Campbell duster, on Wise farm, was completed May 19th.

Phillips Bros. No. 1, on the I. Wise farm, was drilled through the sand, May 22d, without finding oil in paying quantities; and abandoned on the 24th.

John Snee & Co.'s well, on the northeast corner of the McLaughlin farm, was drilled through the sand May 28th, and proved a duster.

Murphy & Co.'s well, on Division 13, of the Mangell, was drilled through the sand and pronounced dry, May 29th.

M. L. Lockwood's well, on the McKinney farm, northeast of Reibold Station, was drilling 70 feet below the proper level of the oil-formation, June 3d, and had found nothing but shells and slate.

Phillips Bros.' Nos. 2 and 3, on the Lavery, were completed and pronounced failures June 10th.

Lappe & Co.'s well, on the McElwaine farm, went through 28 feet of soft, blue sand, June 11th. It was totally dry, and the result killed the last hopes for a northeast extension of the field.

The following table of the gauges of the Thorn Creek district at different dates, shows the gradual increase in the number of wells, and the averaging rate of the production:

Date.	No. Producing Wells.	Production. Barrels.
November 9, '84	11	7,046
do 15,	18	15,445
do 20,	20	10,221
December 1,	24	7,855
do 8,	25	5,768
do 13,	30	14,264
do 15,	31	10,972
do 23,	38	7,140
do 31,	40	8,350
January 12, '85	43	5,340
do 30,	51	6,688
February 4,	52	5,947
do 14,	57	5,727
do 28,	63	7,341
March 18,	73	7,144
do 28,	77	5,875
April 4,	81	8,542
do 11,	89	12,290
do 18,	96	11,037
do 25,	100	8,682
May 2,	103	8,653
do 9,	106	7,515
do 16,	112	6,142
do 21,	116	5,932
do 23,	119	7,387
do 30,	124	8,884
June 6,	131	6,423
do 13,	135	5,374
do 20,	145	4,247

The production of the Baldridge and Thorn Creek districts, as shown by the pipe line runs, has been as follows:

Month.	Runs.
April, '84	25,325
May	32,885
June	29,070
July	27,545
August	26,134
September	79,324
October	187,068
November	284,806
December	270,644
January, '85	192,180
February	205,774
March	224,398
April	280,005
May	232,138
Total	2,097,296
Daily average (426 days)	4,923

The stockholders of the Hazelwood Oil Company elected the following directors May 19th. W. J. Lewis, T. J. Craig, Charles F. Wells, Bateman Goe, George T, Oliver, John Newcomer, W. Steinmeyer, Henry B. Goe, W. L. Vankirk. T. J. Craig was elected President, C. H. Craig, Secretary and Treasurer, and Bateman Goe General Manager.

MACKSBURG.

Macksburg field is steadily increasing its production, but the outlines of the field remain unchanged. The average daily pipe line runs from the wells in the field during April were 1189 barrels; the May average was 1557.

During the month of May 30 wells were completed, having an estimated new production on the last day of the month of 772 barrels. The fourteen wells finished in April had a yield of 358 barrels on the last day of that month.

Southwest of Macksburg, on Federal Creek, a large amount of territory has been leased. Mr. P. C. Boyle has been securing lands for Senator Bradley, of Olean, N. Y., who has a test well drilled to the sand and shut down.

Dale & Co., of Marietta, have had a well mystified for nearly a year. A month ago they had a rig up and another building.

The well drilled on Stillwell Creek, nine miles from Parkersburg, passed through the salt water sand at 1730 feet. It produced some lubricating oil.

The West Virginia Transportation Co. has lately drilled a well on Fifteen Mile Run, southeast of Macksburg.

WELLS COMPLETED IN MAY.

Farm.	*Operato.*	*Barrels.*
G Schilling, Denman Mills & Mullen	No 2	20
Phelps, Barnsdall & Denman	No 1	30
do do	No 2	35
do do	No 3	40
Mary Schilling, do	No 4	50
do do	No 6	40
Coal Lands, Laing & Co	No 6	25
do do	No 12	30
Geo Hupp, Union Oil Co	No 2	12
Devoll, S H Bradley	No 4	18
Dyer, Boden & Aiken	No 6	25
Coal Lands, Lee & Apple	No 5	30
Atkinson, Stephens & Longfellow	No 4	10
do Clark & Spellacy	No 1	25
do D W Clark & Co	No 2	15
Jersey, Borckman & Laney Bros	No 10	12
Perkins, R F Borckman	No 6	30
do Waugh & Porter	No 2	25
do do	No 3	20
Clinedinst, J D Wolfe	No 2	15
James Maginnes, Union Oil Co	No 3	30
Rice, Geo Rice	No 13	15
Osburn, J C Lineman	No 1	50
do do	No 2	45
Rice, Geo Rice	No 14	15
Dyer, Boden & Aiken	No 10	50
Maginnes, Union Oil Co	No 4	25
Jersey, Borckman & Laney Bros	No 9	10
Atkinson, Stephens & Longfellow	No 5	25
Stevens, Lineman & McKevett	No 4	20
Wells		30
Production		772

RIGS AND DRILLING WELLS JUNE 1.

Farm.	*Operator.*	*Depth.*
Lewis Schilling, C N Payne	No 3	1525
Warren, Jno Denman	No 2	1625
do do	No 3	1600
do do	No 4	1600
G Stephens, Mills & Mullen	No 3	1300
Patton, do	No 2	1400
Mary Schilling, Barnsdall & Denman	No 3	1500
do do	No 5	1700
do do	No 7	1200
Phelps, do	No 4	1450
Warren, do	No 2	500
do do	No 3	1400
do do	No 4	700
do do	No 5	100
Deal, do	No 1	100
Hupp, do	No 1	1525
do do	No 2	1150
do do	No 3	250
A Stephens, Lineman & McKevett	No 5	800

Coal Lands, Laing & Co No 7	1200
do do No 8	1200
do do No 10	1000
Smith Dutton, do No 1	1400
Osborn, J C Lineman No 3	300
J B Hupp, Union Oil Co No 1	1200
do do No 2	175
Jersey, Borckman & Laney Bros No 9	1500
Dyer, Boden & Aiken No 11	1300
do do No 12	900
do do No 13	900
do do No 14	800
Kathary, Bailey & Co No 1	1250
Coffee, A W Ogle & Co No 2	400
Perkins, R F Borckman No 5	1700
do do No 7	450
do do No 8	500
John Keller, Porter & Gilmor No 1	360
Coal Lands, Lee & Apple No 4	1650
do do No 6	1200
do do No 7	950
do Laing & Co No 13	700
Osborn, J C Lineman No 3	600
Jno Smithson, Macksburg Oil Co No 4	1450
do do No 5	1250
Rice, Geo Rice No 10	500
do do No 11	600
do do No 12	700
Atkinson, Stephens & Longfellow No 6	600
do do No 7	150
Gordon, Barnsdall & Denman No 2	1200
Perkins, Waugh & Porter No 4	750
do do No 5	500
Clinedinst, J D Wolfe No 3	1200
do do No 4	150
Coal Lands, Laing & Co No 11	rig
Giles Schilling, John Denman No 3	rig
do do No 4	rig
do do No 7	rig bldg
Jno Hupp, Barnsdall & Denman No 4	rig
Deal, do No 2	rig
J Gordon, do No 2,	rig bldg
Dyer, Boden & Aiken No 15	rig
Atkinson, D W Clark & Co No 4	rig
Eagler, Clark & Spellacy No 1	rig
do McConnell, Morris & Co No 3	rig
Perkins, Borckman R F No 9	rig
Clinedinst, C J Garvey No 2	rig
Coal Lands, Laing & Co No 14	rig
do do No 15	rig bldg
Osborn, J C Lineman No 4	rig
Jno Smithson, Macksburg Oil Co No 6	rig
Smithson Bros, do No 5	rig
do do No 6	rig
Gervez, F H Chapman No 2	rig
Clinedinst, J D Wolfe No 5	rig
Rigs	21
Drilling	54
Total	75

A. W. Smiley, of Foxburg, failed to go to the Soudan and construct a pipe line over the barren expanse of country between Suakim and Berber; but while waiting for the English Parliament to overthrow the grand old man, Gladstone, for vainly striving to raise the price of beer, he has been busy laying a pipe line for George Rice, from the Macksburg field over the ridge to Lowell, on the Muskingum River. The distance from Mr. Rice's wells to the slackwater station on the Muskingum is 10 miles. At Lowell, the terminus of the pipe line, the oil is loaded on barges, each of which has a capacity of 2,500 barrels, and floated 10 miles down the river to the refineries at Marietta. The line was completed and tested to the satisfaction of all interested, on the 19th of May.

Edward O. Emerson, Joseph N. Pew, Theodore Johnson, Robert C. Pew and John F. Robinson have given notice through the Pittsburgh papers that they will apply on June 26 for a charter for a gas company under the name of the People's Natural Gas Co. The mining and production of the gas will be carried on in Allegany, Westmoreland and Washington counties, and the principal points of storage and delivery are to be in the cities of Pittsburgh and Allegheny.

OBITUARY—WILLIAM W. BRONSON.

William W. Bronson, connected with the business of producing oil since the early days of Pithole and "the Creek," died at his home in this city Saturday morning, June 6, aged 43 years. Mr. Bronson was born in Philadelphia September 10, 1841, and when five years of age his parents moved to Carbondale, Pa. He came to Oil City in the fall of 1863 and at once actively engaged in teaming coal and oil, and transporting oil in barges down the Allegheny to Pittsburgh. He was also connected with John Owens in the mercantile business. In 1868 he went to Pithole, accepting a position under George V. Forman as Superintendent of the Pithole railroad. He early became interested in producing oil and operated with success in the vicinity of Oil City and Fagundas. He left Pithole for Parker in 1871, and afterwards followed the drift of the oil development to Millerstown, North Warren and Bradford. He became associated with Mr. F. A. Curtis at Warren, and the firm was among the pioneers on Kansas Branch and the Borden lands of the McKean field. Mr. Bronson was a man of careful and conservative business habits. He always steered clear of reckless ventures of all kinds, and by his prudent investments and painstaking management secured a competency for himself and family. He was married to Miss Lena Huff at East Brady, October 30, 1871, who, with three children, survive him. His remains were interred among kindred dead in the cemetery at Carbondale, Pa.

In the May issue of the AGE, it was incorrectly stated that Mr. H. L. Foster had held the office of President of the Oil City Exchange since 1879. The names of the officers of the Exchange since its organization are as follows: 1878. A. G. Greenfield, President; J. T. Jones, Vice President; C. P. Stevenson, Secretary; John Mawhinney, Treasurer. 1879. H. L. Foster, President; C. N. Payne, Vice President; John Mawhinney, Treasurer; H. L. McCance, Secretary. 1880. H. L. Foster, President; T. A. McLaughlin, V. President; J. Mawhinney, Treas.; H. L. McCance, Secretary. 1881 same as 1880. 1882. T. A. McLaughlin, President; W. D. Archbold, Vice President; O. C. Sherman, Treasurer; H. L. McCance, Secretary. 1883. H. L. Foster, President; George Heard, Vice President; O. C. Sherman, Treasurer; R. T. Leech, Secretary. 1884 H. L. Foster, President; I. M. Sowers, Vice President; O. C. Sherman, Treasurer, resigned and succeeded by J. M. Cooper. 1885. H. L. Foster, President; I. M Sowers, Vice President; W. H Choate, Treasurer; R. T. Leech, Secretary.

MAY PRODUCTION REPORT.

Reports from 6,030 Bradford wells, showed an average decrease of two and eight-tenths of a barrel to the well, during May.

Time.	No. Wells.	Gross Stocks.	Average per Well.
June 1, 1885	6,030	323,523	53.6
May 1, 1885	6,032	340,392	56.4
Difference	2	16,869	2.8

The number of wells in the Bradford field connected with the pipe lines on the 1st of May is estimated at 13,420. Estimating the entire Bradford region on the basis of two and eight-tenths barrels decrease, the total decrease in stocks at wells during May, was 37,576 barrels, a daily average of 1,212 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for May is as follows:

	Barrels.
Average Daily Pipe Line Runs	28,443
Average Daily decrease of Stocks at Wells	1,212
Bradford's May production, est.	27,231
do April do do	27,413
Average daily decrease	182

This represents an average decrease of 182 barrels a day as compared with the April estimate.

In the April production report, an error of 1,935 barrels occurred in the Bradford runs. While it made no material change in the estimates on the total production of the region, it increased the production of the Bradford field 1,935 barrels a day, at the expense of the outside runs. Bradford's April production, as noted above, was 27,413 barrels.

THE ALLEGANY FIELD.

The stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per Well.
June 1, 1885	1,134	42,771	37.7
May 1, 1885	1,137	46,818	41.1
Difference	3	4,047	3.4

The wells from which reports were received had an average decrease of three and four-tenths barrels to the well. With 3,810 wells in the field on the first of June, these figures give a total decrease for the field of 12,954 barrels, or an average decrease of 418 barrels per diem. Subtracting this amount from the average daily pipe line runs, 7,467, the remainder, 7,049, will represent Allegany's daily production during May. The April average was 7,169 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells. May 1.	No. Wells. June 1.	Average per Well. May 1.	Average per Well June 1.
Clarendon & Tiona	125	139	57	49
Cherry Grove	22	22	108	90
Cooper District	142	143	65	64
Thorn Creek	48	52	257	242
Lower Country	82	82	50	54
Miscellaneous	135	136	106	125

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for April and May is as follows:

Field.	May Barrels.	April Barrels.
Allegany	27,231	27,413
Bradford	7,049	7,169
Outside runs	21,225	23,067
Total	55,505	57,649

The above figures show a decrease in the production of 2,144 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885.

	Bradford		Allegany		Outside Runs		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
Jan.	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
Feb.	32,378	38,481	11,607	13,154	18,561	13,573	62,546	65,208
Mar.	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
Aug.	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
Sept.	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
Oct.	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
Nov.	31,789	35,026	8,642	12,673	23,557	18,433	63,988	66,137
Dec.	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
Jan.	28,675	31,806	8,260	11,264	18,594	16140	55,529	59,240
Feb.	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,596
M'ch	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23,067	19,162	57,649	63,452
May	27,231	33,922	7,049	11,547	21,225	19,549	55,505	65,018

The Baldridge and Thorn Creek runs were decreased 1,845 barrels a day in May. Balltown, Cherry Grove and Wardwell show a gross increase of 366 barrels a day in their runs for the month of May.

The production of the Bradford field for May is 182 barrels a day less than in April, and 6,691 barrels behind the May output of last year, and 11,808 barrels a day less than the May report for 1883. Allegany falls short of the May average of 1884 by 4,498 barrels, and the entire region shows a decrease of 9,513 barrels per diem from the figures furnished by the production report for May, one year ago, and 13,940 barrels a day less than the estimated output of May, 1883.

JARECKI MANUFACTURING COMPANY,

[LIMITED.]

MAIN OFFICE AND FACTORY, ERIE, PA.

——MANUFACTURERS OF——

A Full Line of Brass Goods, Malleable and Gray Iron Fittings

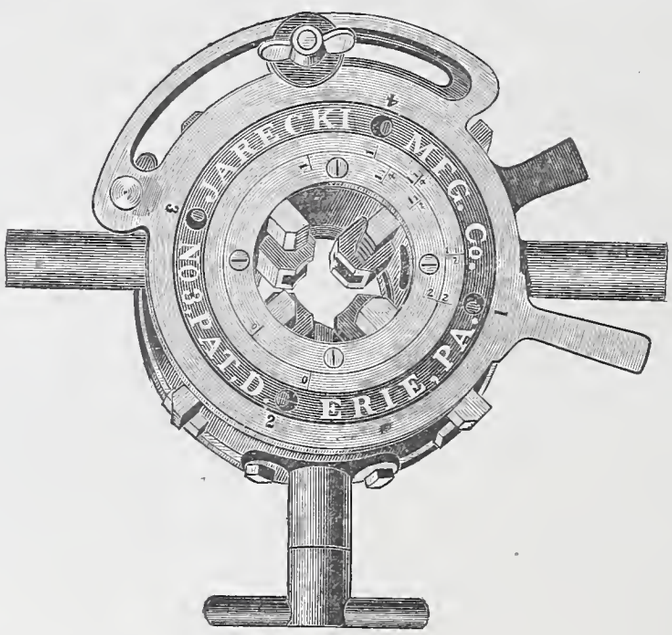
FOR STEAM, GAS, WATER AND OIL.

——ESPECIALLY ADAPTED——

☞ To the Oil Region Trade, Together with a Full Line of General Oil Well Supplies.

JARECKI SCREW PLATE AND PIPE CUTTER.

We can furnish extra dies for all sizes Line Pipe and Casing.



No. 1	Cuts Off and Threads,			¼, ⅜, ½, ¾, ...	$11 00
No. 2	"	"	"	½, ¾, 1, 1¼, ...	12 75
No. 3	"	"	"	1, 1¼, 1½, 2, ...	16 00
No. 3½	"	"	"	½, ¾, 1, 1¼, 1½, 2, ...	18 00
No. 4a	"	"	"	1½, 2, 2½, 3, ...	28 00
No. 4b	"	"	"	2½, 3, 3½, 4, ...	40 00
No. 5	"	"	"	4½, 5, 6, ...	60 00

AGENTS FOR PENNA. TUBE WORKS TUBING, CASING AND PIPE.

BRANCH STORES IN ALL PROMINENT POINTS IN THE

BRADFORD, RICHBURG, WARREN AND BUTLER OIL FIELDS

BRADFORD OFFICE, Riddell House Block.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., JULY, 1885. No. 6.

THE KING OF THE MYSTERY MEN.

THERE is probably no name in the list of men connected with the business of producing oil that has been more frequently or more conspicuously before the speculative trade in crude petroleum during the past two years than that of Michael Murphy, of Philadelphia. Born in Ireland in 1842, his parents brought him to this country at an age so young that he has no recollection of the land of his birth. The rudiments of a common school education he acquired in the public schools of Philadelphia, but very early in life became apprenticed to the cooper trade which he thoroughly learned and which proved the stepping-stone to his future in the oil business. When the war broke out he enlisted in the navy and was on board the New Ironsides in her celebrated attack on Fort Sumpter and Charleston in 1863. He also served with credit on board the Yankee and the Water Witch. He became an acting ensign in the U. S. navy April 20, 1864, and was honorably discharged from the service on the 20th of August, 1865. His connection with the navy has given him the familiar title of "captain," to which his well-known qualities of leadership justly entitle him. After the war was ended he married and settled down to his trade of making barrels. In 1868 he branched out into the business of cooper and gauger of petroleum barrels. In this connection he soon afterwards formed a partnership with John S. Davis and William Banner. Before the advent of pipe lines, empty petroleum barrels were often worth more than the oil they contained. The idea seized Murphy that there was more money in importing old barrels from Europe than in manufacturing new ones. He persuaded his partner

MICHAEL MURPHY.

Mr. Davis, to go to Europe and investigate the matter. The results were that the firm went largely into the business of importing empty barrels, and were very successful. When Banner died the firm continued under the name of Davis & Murphy. Incited by the success of this firm in importing empty barrels, many others engaged in the enterprise, and the business was over done. The firm afterwards became engaged in the crude export trade and in warehousing export oil. Mr. Davis has recently been elected President of the Philadelphia Petroleum and Mining Exchange.

Mr. Murphy is emphatically an oil man of the new regime. His connection with the producing business dates back but a few years, when he and his partner, John S. Davis, purchased the Munhall property in the Bradford field. He at once begun to push the drill and develop the lease with his characteristic energy, but the Bradford field afforded little scope for the exercise of his genius for conquering fresh fields and swaying the crude fractions by the manipulation of the temper screw. It was not until the summer of 1882, when Cherry Grove began to attract the attention of the public, that Mr. Murphy's name became a synonym for dashing exploits in the field and a power on the floor of the Oil Exchanges.

The Grace & Dimick mystery on the lot with the now famous numerals 646, in Warren county, was one of the most successful undertakings of the kind known in the history of oil producing. The initial gusher of the most widely known of the white sand pools, that have startled the speculative world from centre to circumference, within the past twenty years

remained nearly two months in a quiet and uncertain condition, while the projectors of the well were eagerly seeking to secure land and dispose of their surplus production to the best advantage. Mr. Murphy had his eye upon the well from the first, and long before it was opened up to the inspection of the public, had secured the whole of lot 619 on a direct 45 degree line, northeast of 646, and begun the sinking of a well near the southwest corner.

Two days before the opening of the famous mystery, the rig on 619 was burned to the ground. Drilling had been urged at this well with more than the usual rapidity, and on the 15th of May, when the disaster occurred, it was very near the desired spot. Murphy was in Washington, D. C., negotiating for some outlying lands in the Cherry Grove field when his rig was burned. Two weeks later, after the rig had been rebuilt, the well being under guard all the time, the sand was tapped. On the 2d of June this well was flowing at the rate of 1,600 barrels a day. On the 3d of July his No. 2 well, on the same lot, was completed and made 3,460 barrels the first twenty-four hours.

The valuable lands on 619 were bought of Horton, Crary & Co., the great tannery firm at Sheffield, Pa., for $100 an acre and one-eighth of the oil. The purchase was made several weeks before 646 opened her sluice ways, and was regarded by many conservative oil men as a very risky, not to say foolish venture. May 17, 1882, dispelled all doubts of this character, when the telegraph wires began to click the news that 646 made a big flow at 4 P. M. One month later, a half dozen gushers, among which were 619, Mahoopany 611, 646, 647 and 635, were deluging the world with cheap petroleum and the market had sunk to 52 1-2 cents. Murphy's land had risen in value, until $1,000 and a half royalty were frequently paid for an acre of the prolific, but treacherous white sand territory. Shortly after the opening of the initial gusher, Murphy sold the upper half of lot 619, consisting of eighty acres, to the McCalmont Oil Company for the snug sum of $50,000. As he stepped into the Lee House, at Sheffield, the night after completing the sale, he slapped Walt Horton heartily on the back, exclaiming, "Well, Horton, I sold half of that land I bought of you at $100 an acre, for $50,000, but I looked out for you and saw that you were secure of your eighth of the production." Horton looked up, without a trace of chagrin for the opportunity lost, by not holding the land longer and profiting by the tremendous advance that had taken place, and quietly remarked: "Why in thunder didn't you reserve another eighth for yourself while looking after mine?"

Mr. Murphy's first venture in the oil producing business was about May 10, 1880, when he and Mr. Davis bought the Munhall, Andrews & Hitchcock lease of 150 acres, on the northeastern corner of warrant 2,281, McKean county. For this property, upon which there were fifteen producing wells, four drilling and seven rigs, and a 25,000 barrel iron tank, they paid $200,000. This investment was not a financial success, but the lands which the firm afterwards secured, on the Bingham estate, near Davis City, gave them a profit on their investments in the Bradford oil field.

From McKean county Murphy went to Cherry Grove, and was among the first to find out enough about 646 to warrant him in taking risks in that field, which astonished some of the older heads of the trade. He secured lot 619, a portion of 680, drilled a dry hole on lot 633, and with others bought lots 701, 702, 703 and 723, of the Orris Hall property, southwest of the Cherry Grove development. The last four lots are likely to remain forever, outside the range of crude possibilities.

An examination of the wildcat wells in which Mr. Murphy has been interested, since he came in the field, will show that they are located on a line with and as near as possible to producing wells. In all his field operations he has drilled but few genuine test wells, *i. e.*, wells located remote from producing wells. He and George Wetmore, of Warren, sunk one veritable test well on warrant 3,799, Forest county, to test Mr. Landsrath's plateau theory. The result of this venture caused the gentlemen who furnished the necessary funds to lose confidence in the theory.

Not long after the Shannon well, on the Cooper tract, was struck, Mr. Murphy secured property adjoining the Shannon lease on the west, and while the mystery was still under guard Murphy's surveyor, Mr. Wheelock, was the first to accurately locate the well by taking intersection angles from the boundary lines of the two properties. He located a well on a 45 degree line with and seventy-five rods southwest of the Shannon mystery. Sand was struck December 19, 1882, at a depth of 1,808 feet. It proved a fair well, but not a market agitator. It was torpedoed in the small hours of the morning, but did not furnish the pretext for a move on the market. Murphy also became in-

terested with Clark & Foster in 200 acres west of the Cooper tract, a part of which proved average producing territory.

When the Reid & Brenneman second sand gusher, on lot 440, north of the Cooper development, startled the trade in the spring of 1883, Mr. Murphy with his usual dispatch secured fifty acres in the northeastern corner of lot 441. He drilled a well seventy-five rods northwest of the original second sander, but like all others drilled around the first well, it shared a dusty fate. In the winter of 1882 and 1883 Murphy was interested with the Union Oil Company, H. B. Porter, the Anchor Oil Company, Clark & Foster and John L. McKinney & Co., in manipulating the Grace well on sub-division E, of warrant 3,193, on the south side of Tionesta creek, and quite a long ways in advance of the Cooper district. S. B. Hughes, who was looking after the well for Mr. Murphy, drilled it to a point, as was supposed, near the top of the sand, and had the tools taken down. It remained in that condition until early in the spring, when P. C. Boyle, Billy Boyle and J. C. Tennent concluded to guide the drill through the sand for the owners. At a time when the gloom was thick under the hemlocks Billy Boyle, assisted by that enterprising scout, Mr. J. C. Tennent, drilled the well below the sand level. Much to their surprise they found that somebody had drilled the well before them and carefully put the sand pumpings back into the well. A short time after, these searchers after geological lore had handled the well, Mr. N. F. Clark and his superintendent, W. C. Edwards, drilled the well down for the syndicate named above. Here is an instance where a test well, which was then regarded as dangerous on account of its location southwest of the Cooper tract was opened up three times and Mr. Murphy was evidently first in possession of the inside information that the venture was a total failure.

As late as the spring of 1883 very little accurate surveying had been done in the vicinity of Balltown. The maps at that time, of the Balltown section of the country, along the winding Tionesta, failed to convey to an oil prospector or operator the proper location of wells and their true positions, when one was compared with another. The oil trade voted the larger part of lot 3,194, out of range with a belt which might extend in a northeasterly direction from the Grandin No. 3. On the 10th of February, 1883, the Dutch Oil Company's well, on lot 4,823, was drilled into the sand. It had a good white pebble formation and made a five barrel producer. Every indication went to show that it was near the edge of a producing field. Murphy, George Wetmore and J. M. Guffey kept an eye on the well, and in connection with K. H. McBride and the Anchor Oil Company, bought lot 3,194, of about 600 acres, for $25,000, from the Hall estate. Other parties had been negotiating for the lot since the May, Kelley & Grandin No. 3 had been struck on the 24th of August, 1883. Murphy knew of the geographical range of the lot which gave him confidence in this large block of territory which proved one of the best, if not the best lot in the Balltown field.

The Porcupine Oil Company, for that was the name of the organization under which Murphy began operating, located its first well on the north side of the run, about eight rods north of the Dutch Oil Company's well. It did not take very much nerve to locate a test well less than a quarter of a mile from a small producer and on a range with a well less than two miles to the southwest which had produced over 1,000 barrels per day. On Good Friday morning, March 22, 1883, the Porcupine No. 1 struck sand and the well made a flow which caught fire and burned the rig. Murphy had returned to Warren from Philadelphia on the previous evening, and when "Curly" McBride telegraphed him from Balltown late Friday morning that the rig had been burned, Murphy was as much surprised as Jim Emery, the contractor, producer and scout, whose head was surrounded with a halo of brimstone, while he drove a team at the top of its speed through the thick mud from Balltown to Garfield, a distance of eight miles, and rushed breathless into the telegraph office eager to order his oil sold to find it was a holiday and that there was no market. The contractor had been ordered to shut the well down on top of the sand, as Murphy intended to mystify the well in the most approved fashion. Before the fire was put out the scouts in their morning detour from Garfield had arrived on the scene, and their practiced eyes took in the situation. The fire was extinguished, tankage built and everything about the well concealed. Murphy remained up all one night at the well and drummed on a tin pan so that Cappeau and Tennent, two of the scouts, could not hear the well flow, in order to make an estimate of its production. A steam whistle, which was afterwards put on the tank house, drowned all sound of flowing and Murphy and his aids were enabled to dispense with

the music of the tin pan. On the night of March 28th J. C. Tennent crept into the derrick and remained there all night with his hand on the lead pipes; and in the morning was able to make a reliable estimate on the well's production. He told Murphy the next day that he had failed to find the night clerk, but had registered just the same. At this well, which will make a subject for an article, the scouts got the best of the grand manipulator on every turn. When the well was drilled in Murphy got rattled and bought when he should have been selling. He was heavily long of oil when the well was accidently drilled into the sand. The well started at 55 barrels per hour and produced by actual gauge of the writer over 850 barrels the first twenty-four hours.

Murphy became interested in lot 733 and drilled a dry hole on the northeastern corner of the lot. The scouts lay outside of the shanty at midnight and heard the sand taken from the well discussed by Mr. Feeley and Mr. Murphy, and of course they made no mistake in reporting the hole dry in the morning before market hours.

During the spring of 1883, when the surveyor came to run the boundary line between the Porcupine Oil Company's lot 3,194 and 3,195, the lot directly east, it was found that the Gartlan test well, which was then drilling, was located on the Porcupine Oil Company's lands. An amicable adjustment was made with Mr. Gartlan, who held the lease directly east, and the well became the Porcupine Oil Company's No. 4. It is located amid huge conglomerate rocks on the hillside, above Minister Run, and was an important test well for the country northeast of the wells on Porcupine Run. On Sunday evening, May 13th, they were drilling near the sand at this well and the scouts had about closed a bargain with the drillers to put the well below the sand level, when Murphy unexpectedly arrived on the scene and put a stop to negotiations. The Porcupine Oil Company's No. 3 was drilled deeper May 14th, and everything was in readiness to start the drill at the Gartlan, or No. 4, on the morning of May 15th. A telephone line had been strung from Garfield to the well, and an instrument was attached to a large tree near by, the expense for the telephone being shared by Murphy and the scouts. After the guards were stationed Murphy called the roll and found all of the scouts on hand except Tennent. After a diligent search this truant was found in the crevice of a large rock which commanded a fine view of the derrick. The well was mystified until Friday, May 18th, when it was thrown open to the scouts. K. H. McBride, who was interested in the well, and M. J. Feeley drilled it through the sand. Murphy's fondness for bluffing and betting was nicely illustrated by an incident which happened at the venture in the morning before it was opened up to the public. The scouts who were fooled on the well knew that gas had been struck, but did not believe that they had any oil. One of their number offered Murphy ten dollars for a bottle of oil. He was told that he could have it, and Mr. Walker, superintendent for the Porcupine Oil Company, walked into the derrick with the scout, who filled his vial from oil which had been sand pumped from the well. At noon on that day the well made its first flow.

During the handling of this well Murphy was playing one side of the market, and T. J. Vandergrift, who was interested in the well, through the Anchor Oil Company, was working the other. Murphy carried his points on this mystery and successfully mystified the scouts in regard to the true inwardness of the venture, as all, without a single exception, reported it dry, when it was a small producer. The above wells, which have been particularized, are the prominent ones in which the subject of the sketch has been directly interested. He has, however, had a hand in manipulating many more and has been conspicuous in the late Thorn Creek development.

Murphy and the scouts, whom he kept outside the guard lines, which he established, were always on the best of terms. While a well was being mystified he was as severe as the boss guard, who for the time is overcome by his own importance. The average scout does not view the relations existing between himself and the mystery man from the standpoint of a Chesterfield. He knows when he approaches a well that he is going where he is not wanted, and that all avenues of information will be closed and every means which the well owner can devise will be used to mislead in regard to its true condition. When the guards were "taken off" or dismissed the cordial relations were resumed in the field as they always existed at the office. A deal once ended in the field was ended for all time to come. Murphy never treasured up a wrong, real or imaginary, against a scout regardless of any unpleasantness which may have occurred in the field. Murphy and A. J. Gartlan are the men of all others who are noted among the scouts for their tact and good na-

ture in handling wildcat wells. Mr. Murphy is a man of fine address and agreeable presence. Keen, quick witted, ever on the alert and possessed of abundant energy, the oil fields have afforded a favorable sphere for the exercise of his natural qualities. He is quick to make up his mind and quick to act. When once he decides a certain piece of property is likely to prove valuable, no delays are allowed to interfere with his securing it. If a well is to be sunk he sets about it at once. No matter where the location has been made, roads are constructed through dense forests and over precipitous hills, machinery is dragged in, and the drill urged downwards with all conceivable rapidity. No money is spared when a point is to be made. His operations on the oil market are of the same nature. A bold and fearless dealer he never gives his rivals an opportunity to surprise him. His conflicts are short and decisive. Occasionally worsted in the battle with the crude fractions by men with more wealth and certificates at command than himself, he retires, but returns with unexampled dash and extricates himself by the very audacity of his movements. His late career at the southeast extremity of Thorn Creek development, has been a somewhat checkered one, and the field has furnished him fewer opportunities to strike terror among the ranks of oilspeculators than Balltown and Cherry Grove.

Mr. Murphy is yet comparatively a young man, and a bright, expressive countenance, and an energetic manner of movement make him appear still younger than he really is. The future has many years in store for him, and his name will be heard again when some new rival to Cooper and Balltown begins to raise its head above the petroleum horizon.

Enlarged Quarters for the New York Exchange.

When the members of the Consolidated Stock and Petroleum Exchange of New York entered the building on the 15th ult., they were surprised at the complete transformation which had taken place since the Exchange closed at 11 A. M. on Saturday, June 13. The walls which separated the old Exchange from No. 62 Broadway had been removed and a series of arches substituted, giving the room a unique and handsome appearance. The large nickel-plated bull ring is within a few feet of the Broadway entrance. A series of steps surround the pit, which runs north and south. In each corner of the pit are wide-mouthed nickel-plated pipes which run up to a height of five feet. Draughts of cool air are forced through these pipes from an ice-chamber located in a subterranean part. The ventilation is as perfect as it is possible to get it. The foul air is removed through the medium of large sky-lights and by a novel manner of exhaustion through the risers to the steps of the bull ring.

The new exchange quarters are unlike anything in the city. The acoustic qualities of the new rooms are perfect. The chairman now holds forth on the north side of the building. His throne is in the centre of the new addition. Just beyond is the stock department. An iron railing on the south separates the spectators from the brokers and traders. The telegraph offices are located at the Broadway entrance. The new quarters, which are large, airy and commodious, contain 6,500 square feet. On the second floor are located the reading-rooms and offices of the exchange. The repairs were made under the direction of President Wilson, who was ably assisted by Emil Schalk, the chairman of the committee of arrangements.

AFTER a fair trial the New York Produce Exchange has given up dealing in petroleum certificates, and abandoned its quotations from Oil City.

THE brokerage firm of Huntley & Whitcomb has been dissolved, by the retirement of Mr. Whitcomb, who desires more leisure to attend to his duties as administrator of the Duke estate. The business is continued under Chas. R. Huntley.

THE members of the Petroleum and Mining Exchanges at Third and Walnut streets, Philadelphia, have elected the following officers:—President, John S. Davis; Secretary and Treasurer, William H. Pettit; Conference Committee, Samuel Q. Brown; Governing Committee, W. N. Vigners, W. M. Benerman, E. A. Houard, Charles Kane, J. E. Morse, M. B. Paxson, J. W. Thompson, John Tracy, J. R. Trimmer, F. S. Bond, A. L. Kohler, Charles Disston, R. H. Austin, H. W. Andrews, Jr., and T. W. South.

MCHENRY & FRENCH are the two energetic members of the Excelsior Torpedo Company. Mr. McHenry is widely known as one of the most careful and successful handlers of the powerful explosive in the Northern Field. A long service with the Roberts' has given this firm that practical knowledge of the business that is only acquired by experience. Producers who give the boys a trial can be assured of the best material, guaranteed weight and effective results.

NOTES ON NATURAL GAS.

NATURAL GAS FOR FRANKLIN.

The Franklin Natural Gas Company was incorporated by the Legislature June 30. It has a capital stock of $50,000, and the chief promoter of the enterprise is Mr. C. W. Mackey. The city council has granted the company the exclusive privilege of laying pipe for six months. If gas is not brought to the city within this time these special franchises are forfeited. The company state their ability to comply with these conditions within sixty days. Contracts for laying the pipe have been awarded to Mr. D. I. McVey. The officers of the company are as follows: President, C. W. Mackey; Vice-President, A. G. Egbert; Treasurer, W. H. Forbes; Secretary, W. J. Lamberton; Directors, C. W. Mackey, A. G. Egbert, J. M. Dickey, B. W. Bredin, W. J. Welsh.

THE ACME GAS CO. SOLD.

The Philadelphia or Westinghouse Natural Gas Co., of Pittsburgh, on June 29 completed negotiations for the purchase of the wells, pipe lines, franchises, etc., of the Acme Gas Co., for the sum of $400,000. The purchase virtually embraces three companies, to wit: Acme Gas Co., Acme Fuel Co., and Braddock Gas Co. These companies and the Westinghouse company receive their supply of gas from the Murraysville region. The Acme company had originally a capital stock of $35,000, but the outlay increased its value to $200,000. One of its principal customers was the Edgar Thompson Steel Works, at Bessemer, which establishment consumed an immense quantity of natural gas. A large number of private consumers in Braddock have also been supplied. It was incorporated on June 22, 1883. Boulton and Doubleday, two well-known operators in the oil region, were the organizers of the company and owned the greater part of the stock.

The wells are located in the Murraysville territory. They are two in number and are among the best wells in that district, having never been troubled by salt water or other drawbacks which detract from the value of such property. The flow has been steady ever since the wells were struck, three or four years ago, and the pressure, which has never been correctly gauged, has shown no cessation, and is sufficiently powerful to force the gas to Braddock and the surrounding country, as well as into the city of Pittsburgh. The Philadelphia company will at once take possession of their newly-acquired lines, which yield a handsome income.

It is understood that the Westinghouse company has determined on buying out all of the lesser concerns, providing they can secure them at a reasonable figure. The Acme companies have been the source of a good deal of revenue to the original owners, and they consider the price paid for their franchises, $400,000, as only a fair figure for their investment.

THE SHENANGO NATURAL GAS CO.

A charter was granted to the Shenango Natural Gas Co. on the 30th ult. The capital stock of this company is $350,000. The shareholders are: Henry Fisher, Andrew Mellon, W. S. Mitchell, H. C. Frick, Pittsburgh; John Fisher, Oil City; J. C. Fisher, J. W. Craig, Allegheny; J. H. Gailey, Rochester, and H. E. Pickett, Bradford. The company proposes to furnish natural gas to New Castle and other towns in the vicinity. This company struck a strong vein of gas at their well on the Book farm, ten miles south of New Castle, on the 14th of June. The pressure is reported as being about 200 pounds to the square inch. It is expected that the gas will be brought to New Castle and used in the mills there. On the first of the month land-holders in the vicinity were agitated over the report that petroleum in small quantities had made its appearance in this well.

THE NATURAL GAS WELLS OF NORTHWESTERN OHIO.

The gas wells that have been drilled within the last year in Hancock and Wood counties, Ohio, have furnished some interesting, and to some degree unexpected, information as to the geological formations of the State. They show the presence of several formations that nowhere appear in outcrop within the limits of Ohio. The section furnished by them agrees quite closely, as to its elements and its general lithology, with the New York scale. I have lately examined the carefully-kept records and drillings of six of these wells. They agree entirely in their main features. All begin in upper Silurian limestone, and all find their main supply of gas in the Trenton limestone. The section furnished by them is as follows:

	Feet.
Niagara limestone, gray and blue, dolomitic	200
Niagara clay, a characteristic bed in Central Ohio	2–4
Clinton limestone and shale, high colored	75
Medina shale, red and blue	50–100
Hudson River shale, gray and blue	400–500
Utica shale, dark, almost black, in places	275
Trenton limestone	300
Bird's-eye limestone	?

The Trenton limestone was drilled through in but a single well. The Niagara clay contains characteristic fossils, as does also the Hudson

River shale and the Utica shale. The Trenton limestone is crystalline and hard, but it shows the presence of fossils in abundance. The gas obtained from the wells is delivered with moderate pressure. It contains a notable quantity of sulphureted hydrogen. It is used so far mainly for heating and for steam production. Judicious estimates put the amount yielded each day by three wells in Findley, the county-seat of Hancock county, at 500,000 feet.—*Professor Orton, in Science.*

NATURAL GAS VS. COAL AT PITTSBURGH.

Gradually natural gas has been introduced, and it is now used instead of coal in all the Pittsburgh mills except by Chess, Cook & Co. It is a smokeless, odorless fuel, and the place will lose its world-renowned title of "Smoky City." The inhabitants are rejoicing at the prospect of getting rid of the soot and dirt, but thousands of them lose their employment as soon as the furnaces are lighted with natural gas, for it does away with all firemen, ashmen and deliverers, and thousands of coal-diggers, who earned their living by digging yearly the 38,250,000 bushels of coal which will be displaced by the new fuel.

Mr. William McIntosh, president of the New York and Cleveland Gas Coal Company, and president of the Railroad Exchange, said that the inroads gas has made as a fuel have only had a trifling effect on the coal trade. It was true that many diggers had been made idle, but they found employment elsewhere, just the same as the employers would have to find another market for their coal. The miners, however, think that it will not be so easy to find work for the idle men or a market for the coal as Mr. McIntosh thinks. They believe the coal industry is doomed, and if the general introduction of gas works successfully a sharp competition will be created between the mine operators which will have the effect of reducing the wages for mining.

A coal miner, in discussing the injury to his trade likely to result from the use of natural gas, said to a reporter:

"In a tussel with the operators for a half a cent more or less a bushel, we know the tricks and can win about half the time; but this is a going into competition with Providence, and I'm afraid the man with the pick will get the worst of it. Natural gas in the iron mills will take the place of 38,500,000 bushels of coal, you say, and 1,000 cubic feet of gas is equal in heating strength to a bushel of coal. That means that the Pittsburgh mills will burn 38,500,000,000 cubic feet of gas a year, or enough to fill a box a mile high, a mile wide, and two and one-half miles long. That's a good deal of gas; but, bless you, if the Lord has really made up His mind to break up the coal business, He isn't going to back away from a call, even as big as that. He can make a good gas out of nothing, without paying a hand, and the coal operators can't buck against him It's all very well to look brave and talk about finding another market for the coal, but I can't see just where it is to be. Have you heard of any large section of country where the people have been burning wood heretofore, but will begin on coal now and use 38,500,000 bushels a year? I tell you if this gas works successfully in the mills the mine operators will be cutting each other's throats for customers before three months, and then where will our wages be?"

CLEVELAND WANTS A GAS WELL.

The Cleveland Rolling Mill Company, of Cleveland, O., has been drilling for gas on its property in the Eighteenth Ward since October 10, 1884. At the depth of 715 feet a small vein of gas was found, but it was soon exhausted. After passing through the shale the drill entered a vein of limestone 260 feet in thickness. Below this, hard gray sandstone was encountered. While the drill was pounding in the sandstone at a depth of 1,700 feet, the well suddenly filled with water, which being pumped out was found to be strongly impregnated with salt. The drilling was continued until a depth of 1,985 feet had been reached, when pure rock salt was found. This vein was 169 feet in thickness, and it required thirty-six hours to drill through it. The drillers were not in search of salt, but gas, and they continued with the work. The big salt vein was encountered about a month ago. Two weeks later after drilling through a considerable amount of rock, another but smaller vein was encountered. The drill was still driven downward until it had reached a depth of 2,680 feet, and the drillers were treated to another surprise. This time they found petroleum. Evidences of oil were found in the shape of a peculiar odor about the borings. The drill was passing through very hard rock, and it therefore proceeded very slowly. Every time the sand-pump was put down into the well it was filled with oil and water, and several barrels of petroleum were taken out in that manner. The oil is said to be of very fine quality. What has already been found seems to have

trickled through the rock from a pocket near the well. No gas has been found since the drill passed below 1,000 feet. It is now producing about one barrel of oil daily. The hole has reached a depth of 2,700 feet, There are slight indications of gas but it has not yet been discovered in paying quantities.—*Cleveland Leader.*

MISCELLANEOUS NOTES.

The gas well at Waynesburg, Pa., is 2,745 feet deep. The owners intend boring deeper, and expect to find oil.

Brownsville, Pa., is in a fever of excitement over the big gas strike made by the Dunlap Gas and Oil Company. The citizens are wild over the fact that the town is on the gas belt, and nothing is talked of but new wells. The Dunlap well is a roarer, and is said to approach the famous McGuigan well in quantity, while the gas is richer in quality.

The Chrystal Window Glass Works of Bellaire, O., will begin the erection of a stack furnace, the first in this neighborhood, the present month. The intention of the managers is to use slack coal, hoping by this means to reduce the cost of manufacturlng the glass to the figure it is produced at by the use of natural gas.

The Sharon Light and Heat Company was organized June 22d by the several subscribers to the fund of $2,000 for drilling in Sharon for natural gas. Mr. J. J. Spearman was elected president; Thomas Tanner, secretary, and John C. Owsley, Treasurer; Mr. R. S. Henderson was appointed to procure leases of territory. The location of the test well has not yet been determined, but it is probable that it will be somewhere on the west side of the river. Work on it will be begun soon.

The gas well struck by the McGrew Bros., on the Millinger farm, in Oakland township, is one of the largest ever struck in Butler county, and as it is less than four miles from the well to St. Joe station, the gas will probably be utilized.

The New South Oil and Gas Company has been organized at Covington, Ky., with a capital of $200,000. It will explore favorable points in Kentucky for supplies of gas and oil.

The oil and gas firm of J. M. Guffey & Co., of Pittsburgh, have leased 2,000 acres of land between Canonsburg and Hickory, two points at which gas has been found. It is the intention of the firm to immediately sink several wells for gas, and, if successful, pipe the fluid to the Smoky City.

The Chartiers Valley Gas Company is drilling four wells at Hickory, Pa.. in the Washington gas field. It is expected that the drills in two wells will penetrate the gas crust in about ten days. All of the gas secured will be piped to Pittsburgh. Farmers living along the pipe lines are nearly all using gas for fuel and illuminating purposes. Superintendent Thomas J. Bray has arranged a silencer at the Idlewood flambeaux, and the gas burns without making any noise whatever. The sound is subdued by the introduction of the gas into a tank filled with water located at the top of the escape. The plan works admirably, and the flame lights up a large area of country. The officials of the company claim they have never yet had an explosion on their line.

The Windsor well, on the Panhandle, twelve miles this side of Wheeling, which was drilled several years ago for natural gas, is still an object of interest to travelers. A good flow of gas was struck, but rendered useless by the intermittent flow of water. Every six hours, with hardly a minute's variation, comes a rumble, and then the water commences to boil out of the hole. First it comes up about a foot high, then two and three feet, and then comes a quick, sharp, "swish," and a stream is sent upward at least 75 or 100 feet into the air. The well was abandoned a long time ago, but it is understood that a party of Wheeling gas men are about to drill it deeper and case off, if possible, the water supply. The flow of gas is strong when it is not spouting.

The commissioners appointed to take testimony in Pittsburgh on the natural gas question, have completed their labors, and the voluminous testimony collected will soon be published in book form. Mr. H. B. Robinson, chief of the civil engineers employed by the National Transit Company, was in Pittsburgh on the 21st of May, and was questioned for three hours by the commissioners and the attorney of the gas companies, Mr. Brown. Mr. Robinson's testimony covers 47 pages of legal cap, witten with a typewriter. He gives reasons for a preference for wrought iron pipe over cast iron for the purpose of transporting gas. He also set forth a method of computing the amount of gas which pipes of different lengths and diameter will discharge. Mr. Robinson has made a careful study of natural gas lines and the gas business, and has enjoyed unsurpassed advantages for the thorough investigation of all matters relating to the natural gas question.

Subscribe for the AGE. Only 25 cts. a month.

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	JUNE, 1885.	MAY, 1885.
National Transit Co	1,585,081.93	1,567 991.08
Tidewater	198,657.34	191,632 83
Octave Oil Co	3,150.42	2,581 00
Charley Run	.....	.....
Shaffer Run	.....	.....
Franklin (limited)	8,345.84	7,481.62
Cranberry Pipe Line	1,787.92	1,485.96
Total	1,797,023.45	1,771,172.49
Daily average	59,900.78	57,134.59

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	JUNE, 1885.	MAY, 1885.
National Transit Co	1,818 176.28	1,902,177.60
Tidewater	206,856.95	186,420 73
Octave Oil Co	2,542 95	2 173.00
Charley Run	.....	.....
Shaffer Run	.....	.....
Franklin (limited)	4,933.64	3,793 11
Cranberry Pipe Line	1,168.68	2,188.63
Total	2,033,678.50	2,096,753.07
Daily average shipments	67,892.83	67,637,19

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762 92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	JUNE 30, 1885.	MAY 31, 1885.
National Transit Co	33,499,581.18	33,850,600.89
Tidewater	1,504,991.12	1,514,910.68
Octave Oil Co	5,556.35	5,498.00
Charley Run	3,717.00	3,717 00
Shaffer Run	30,636 32	30,636.32
Franklin (limited)	31,599.82	31,187 62
Cranberry Pipe Line	24,195.76	23,576 53
Total	35,103,277.55	35,460,127.04

Stocks decreased June	356,849 49
Stocks decreased May	565.252 48
Stocks decreased April	42,525 72
Stocks decreased March	248,900.89
Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780 27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552 87
Stocks decreased October, 1884	616,976.88
Stocks decreased September, 1884	345,281 52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.10
Stocks increased June, 1884	194,320.23
Stocks increased May, 1884	322,981 75
Stocks increased April, 1884	1,945,919 83
Stocks increased March, 1884	164,711.33
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56

	RECEIPTS.	DELIVERIES.
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,861
Daily average February,	54,976	67,667
Daily average January, 1885	53,290	58,183
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76,391
Daily average August	66,996	64,402
Daily average July	66,702	56,170
Daily average June	67,350	60,907
Daily average May	66.688	56,448
Daily average April	65,794	54,773
Daily average March	64,590	60,445
Daily average February	64,573	59,420
Daily average January, 1884	58,178	54,404

SUMMARY of the statements of the National Transit Co., for June and May, 1885:

	JUNE. Barrels.	MAY. Barrels.
Receipts from all sources	1,585,081 93	1,568,310.73
Deliveries	1,8 8,176 28	1,902,177.60
Gross stocks end of month	37,16 ,816.42	37,233 101.90
Sediment and surplus	3,666,235.24	3,382,501.01
Total liabilities end of month	33,499,581.18	33,850,600.89
Outstanding acceptances	27,793,381,72	26,864,600.44
Credit balances	5,706,199 46	6,986,060,45

SUMMARY of the Statement of the Tidewater Pipe Co., Limited, for June, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of June		1,514,910.68
Quantity of crude petroleum at close of June	1,633,386.33	
Less sediment and surplus	128,395.21	
		1,504,991.12
Receipts during June		198,657.34
Deliveries during June—to refiners	206,856.95	
" " " to other parties	.....	
		206,856.95
Outstanding certificates, accepted orders, etc.		830,000 00
Credit balances		674,991.12
Total liabilities, June 30, 1885		1,504,991.12

MAY SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of May		1,512,639.53
Quantity of crude petroleum at close of May	1,635,377 58	
Less sediment and surplus	120,466.90	
		1,514,910.68
Receipts during May		191,632.83
Deliveries during May—to refiners	186,420.73	
" " " to other parties	.....	
		186,420.73
Outstanding certificates, accepted orders, etc.		820,000.00
Credit balances		694,910.68
Total liabilities May 31, 1885		1,514,910.68

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO JUNE 30, 1885.

18 2.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge Bbls.
May	6,765	.....	.....	6,765	218
June	91,102	.....	.....	91,102	3,035
July	268,294	.....	.....	268,294	8,65[illegible]
August	753,752	.....	.....	753,752	24,317
September	690,072	.....	.....	690,072	23,002
October	290,246	3,712	.....	293,958	9,483
November	146 587	8,810	.....	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	112,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,516	114 233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,726
March	31,020	143,571	87,193	261,784	8,445
April	31,191	226,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	89,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
September	19,590	64,648	63,453	147,691	4,923
October	13,824	56,151	55,211	125.186	4,038
November	12 689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25,469	62,262	2,224
March	11,558	25,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71.216	2,297
June	13,181	29,998	31,340	74 519	2,484
Total June 30, '85	3,430,523	2,318,431	1,749,195	7,498,149	6,480

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to June 30th, 1885. Cherry Grove has produced 3,430,523 barrels, Cooper 2,318,431, and Balltown 1,740,195 barrels. The daily average runs from the three fields during June were 2,484 barrels, an increase of 187 barrels over the May figures. The daily average runs from the Cooper and Henry Mills sections for June were 1,000 barrels, for May 1,051 and for April 1,114 barrels.

The Balltown field has a daily average of 1,044 for June

against 902 in May. Cherry Grove averaged 439 barrels during June, 343 in May, and 299 in April.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to June 30, 1885, inclusive, has been 7,498,149 barrels, a total daily average of 6,480 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are enumerated in the list. In the Baldridge are included the runs from the prolific Thorn Creek district. The pipe line runs from these sections since April 1st, 1884, have been as follows:

MONTH.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1,015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,684	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February	205,774	7,349	18,570	663
March	224,398	7,239	18,770	605
April	280,005	9,333	15,823	527
May	232,138	7,488	22,384	722
June	177,147	5,905	22,914	764

The Standard Oil Company's New Building.

One of the most solid and substantial business blocks in the city is that of the Standard Oil Company, at No. 26 Broadway. It has ten high studded stories and its polished marble front towers many feet above the tenth floor of its comely neighbor, the Welles building. It is the most prominent structure on lower Broadway, and in elegance of finish and elaborateness of detail is not excelled by many buildings in the metropolis.

The Puritan-like severity of its plain white but solid and imposing front is relieved by a polished marble portico over the main entrance which is repeated at each successive story until the ninth floor is reached.

The Standard's new business place which has a frontage of 100 feet on Broadway, and extends through an entire city lot to New street, is perhaps the best lighted and best ventilated building ever erected on Manhattan Island. In the center of the building is a wide, long and airy court extending from the basement to the tenth story. Every office is so located that it is as light and airy as a photographer's studio. In the old building many of the offices were so dark that it was necessary to burn gas all day. In the new structure this defect is entirely obviated.

Early in 1884 the Standard became crowded in its elegant and at one time roomy quarters at No. 44 Broadway. Messrs. Flagler, Rockefeller & Pratt, three of the Standard's most prominent members, were instructed to build a new home for the company, They commenced their work by purchasing the stores and lots at No. 26 Broadway, running through to New street. The ground itself cost a small fortune, yet the entire cost of the building will not exceed $1,000,000. Had the contract been let in the usual way the approximate cost of the structure as it stands would have reached perhaps $3,000,000. But the triumvirate who were intrusted with the work performed their duty, and in so doing saved a barrel of money. Some of the work was done by contract, but the majority of the labor was done by laborers and skilled artisans who were hired by the day or piece. The building is as near fireproof as it is possible to make it and is finished throughout in a rich but unpretentious manner. Marble tiles cover the floors. A marble wainscoting five feet high runs along the halls and stairways. The bulk of the marble used on the floors is white, which combined with the dark Tennessee variety forms a pretty and pleasing picture.

The doors, windows and casings are of solid mahogany, with fancy gold bronze mountings. The elevators, four in number, are of the latest approved patterns. Boilers far below the street surface of Broadway will supply the heat for the registers which are located in every room, in the winter, and hot water and power for the air generators and fans that furnish and change the air incessantly in every room in the entire structure in the summer.

The pneumatic tubes to be employed are the first of the kind ever introduced in this country. In addition to the ordinary tubes, they are arranged with grates or switches, self-acting, which enable them to deliver mail or packages into any of the many offices in the building, thus doing away, to a large extent, with the messenger service. The telegraph system of the National Transit Company is faultless. As the wires are concealed the handsome appearance of the rooms is not marred.

On the tenth floor, which commands a superb view of the bay and ocean, will be located a restaurant, which will be the equal of any in the city. Officers and employes of the company will not have to leave the building at lunch time. It was expected that the new building would be ready for occupancy by June 1, but in this the company was disappointed. Several of the Standard's institutions have moved into the new quarters, but the building will not be fully tenanted until late in July.—*O., P. and D. Reporter.*

THE PETROLEUM AGE,

DEVOTED TO THE

INTERESTS OF THE PETROLEUM TRADE.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR,
BRADFORD, PA.

W. C. ARMOR, Manager.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid).....$3.00 per Year, in Advance
Subscription Price (Postpaid).....$1.75 per 6 months in Advance
Foreign Subscription.....$3.50 per Year in Advance
Single Numbers.....30 Cents
The Bradford office of the AGE is in the Producers' Exchange Building.

PHILLIP MARTIN SHANNON.

In the October number of the AGE a detailed historical account was given of the Shannon mystery, on the Cooper tract, in Forest county, a well which attracted as much attention as any of the many wells which influenced the market during the year 1882. In this number we present a cut of Mr. Shannon, who is now the popular Mayor of Bradford, with a brief sketch of his life. Mr. Shannon was born September 2, 1847, at Shannondale, Clarion county, Pa. While a mere boy he turned a deaf ear to the ring of the school bell to listen to that grander call to arms. On the 1st of January, 1862, when but fourteen years of age, he enlisted in the 62d Regiment of Pennsylvania volunteers, under Colonel Sam Black, of Pittsburgh. After bearing a gallant part in the heroic struggle for the Union, he returned to that city at the close of his enlistment and engaged in mercantile pursuits as a traveling salesman. While visiting the town of Parker in 1870, for commercial purposes, he became interested in an oil well and has since followed the varying fortunes of the oil man. He was one of the pioneers of Millerstown, operating extensively in that section, and seems to have been as popular there as he now is in Bradford, for in 1874 he was made Burgess of the borough of Millerstown. He was elected to the office independent of party lines, and filled it in a manner satisfactory to all parties. At the Republican primaries in Butler county, in 1876, he received the largest number of votes of all the candidates for the Legislature, but was counted out by the county ring, who threw out the oil region vote in the convention. From Butler and Armstrong Mr. Shannon drifted with the tide to the famous Bullion field, which passed the summit of its glory in the summer of 1877. It was then the writer first met Mr. Shannon. He was a quiet, genial gentleman 'mid turbulent surroundings. Wherever he is found, whether it be playing the role of a cold man at a mystery well or among the great gushers of a white sand pool, in which he is holding a hand, he is always good natured and courteous and the equilibrium of his mental forces is never disturbed. Mr. Shannon followed in the wake of the efflux from the Lower Country to Bradford, arriving here in 1879, where he has since found a home. Last February, upon the solicitation of the best men of both parties, he consented to run on the Republican ticket for Mayor, and was elected by a small majority. Mr. Shannon is strictly temperate in his habits and leads a pure and upright life; he has been an observer, but not a participant in the nether side of life in the region. He will be attentive to his sworn duty in enforcing the ordinances of the city, but does not pose as a reformer or political prohibitionist. He is familiar with the many phases of life in this glorious climate of Pennsylvania, and knows where the line must be drawn, which gives a fair margin to the boys who are extracting ozone from this exhilarating atmosphere. Mr. Shannon is interested in the Cooper tract in Forest county and has wells in the Bradford and Allegany fields. He often does effective work in leasing and buying lands for the great firms with which he is connected. He is a favorite in the best social circles of the city, and stands high in the Masonic order, having reached the thirty-second degree in that fraternity. He now holds the position of King in Chapter No. 260, R. A. M., and was recently elected Eminent Commander of Trinity Commandery, No. 58, K. T. In 1881 he and Miss Hattie McIntosh, of Bradford, were married and they have one daughter fourteen months old.

W. H. Dufur, one of the prominent brokers on the floor of the Oil City Exchange, is Chairman of the Astral Refining Company.

THE PRODUCING REGION.

ALLEGANY FIELD.

ON the last day of June there were 20 new rigs and 31 drilling wells in the Allegany field. The rigs that had been standing a greater length of time than thirty days numbered 48. As compared with the close of May there is an increase of three drilling wells. Active operations centre about lots 10, 20 and 21, of the town of Clarksville, and around the old Niles "black oil" well, on lot 48, Wirt. The wells in the Clarksville section are of the ten-barrel order, while those that have been drilled about Niles are not greater than five barrels. A line of dry holes and gas wells intervene between these sections and the main body of the Allegany field. The theorists are figuring on a connection between Niles and Clarksville, but the Dow duster, on lot 54, Wirt, would seem to establish the falseness of the supposition. During June, Allegany completed 32 wells, one of which was dry. The new production is rated at 194 barrels. The Allegany runs averaged 7,680 barrels a day in June, 7,467 in May, and 7,738 barrels in April.

BRADFORD FIELD.

The runs from the Bradford field reached 30,662 barrels a day in June. This is 2,219 barrels a day greater than the May average. An advancing market and a reduction in the price of nitro-glycerine, has caused a universal stirring up of the old wells and brought about an increased production. There were 39 productive wells and two dusters completed in the Bradford field during June. The new production is placed at 548 barrels. At the close of the month Bradford's record showed 21 new rigs, 52 old ones and 36 drilling wells. This is a slight increase over the May operations. Of the two dry holes found in the Bradford field, one on lot 84, of the Bingham lands, between Alton and Lafayette, was drilled by Wm. Fitzgibbons to catch the supposed connection between Cole Creek and Kinzua. The Hazelwood Oil Company will further test the matter at the well now drilling, along the railroad below Alton on Warrant 2,253. The other dry hole was found on Warrant 3,732 in the Sugar Run section, and was of little importance, although the owners, Beatty and Sherman, are drilling another well in the same locality.

WARREN AND FOREST.

The middle field completed 74 wells in June, with an estimated production of 640 barrels for the last day of the month. Six of the number were dusty failures. May completed 60 productive wells and 7 dry holes and the new production was 469 barrels. At the close of June there were 48 new rigs, 16 old rigs, and 58 drilling wells in Warren and Forest counties. May closed with 48 new rigs and 60 drilling wells, while the old rigs were 20 in number.

At Kinzua village nothing of importance has been developed since the Parker & Phillips well struck the sand. Porter & Conley abandoned their well on the Swift farm after shooting, the show of oil not being sufficient to guarantee a paying well. Dr. Van Scoy's well on the Marsh farm, near the B., N. Y. & P. depot, found an abundant supply of salt water. It is now pumping about five barrels of oil per diem. The Doctor has a second location on the same farm in close proximity to the Phillips & Parker well.

Clarendon and Tiona remain the active sections of the middle field. Clarendon completed 19 and Tiona 26 wells in June. On the last of June there were 35 new rigs and 37 drilling wells in this portion of the producing region. Cochran Brothers' test well near the southeast corner of lot 243 proved of very small calibre, and at the present time has entirely ceased producing. E. O. Emerson's experiment to the northeast, located in the northwest corner of lot 111, averaged five barrels a day for the first ten days after shooting. Booth Brothers are starting a well near the middle of the north line of lot 83, and Emerson will drill in the northwest corner of lot 158. These experiments will test the theory of a northeast extension of the Tiona development.

Dr. Heath's venture on lot 576, southwest of Clarendon, had a small showing of oil, and the owner had great hopes of it. A heavy shot however, failed to make a producer of it, and it is classed among the dusters. A second test well will be put down in the same locality. H. Landrath's experiment on lot 374, southwest of the Wetmore gas wells, proved a failure.

Willard White completed a wild-cat in Elk county, up the Clarion river, a half-mile from Johnsonburgh station, which is a fair gas producer. It is 1,730 feet deep, and had about 14 feet of the Bradford sand. On Wolf Run, Warrant 3,561, of Forest county, Dr. Roberts has a well in the sand, which attracted a little attention early in the month. There was an attempt made to mystify the experiment, but the general opinion prevails that the well is of little account. It is south of the old "Hoodoo"

well a short distance, and has made a similar showing of oil.

The northeast annex of the Balltown field is again becoming of interest. The Proper Reserve Oil Company struck a 100-barrel well on Warrant 3,195, near the mouth of Fool Creek. It is 100 rods in advance of the company's producing wells on the same warrant. Southwest of the Balltown field Goff & Welch are starting the drill on the Schooley tract, Warrant 5,214. The wells of May, Kelley & Grandin, on 5,215, are about two miles in a northeast direction from this experiment.

THE LOWER COUNTRY.

June in the lower country was a field month for the bulls. The dry holes and wild-cat wells at the close of the month furnished the only features in a report worthy of note. In Venango county operations were signally unsuccessful. W. H. Dufur's well, on the Long or Steven's farm, came in dry. Four out of five wells drilled in the immediate vicinity of Boyd & Armstrong and Lee's well in Rockland township, Venango county, failed to disclose any traces of oil, and the fifth well on the first of the present month had the record of a 15-barrel pumper. The Mount Hope district was quite as discouraging in its showing as Rockland, as the one well finished came in dry. Over in the Bullion field, at the southwestern end of the belt, a great deal of interest is taken in prospective work, and about a dozen rigs and drilling wells were under way July 1st. The well on the Henderson farm came in dry. Prospectors are looking for crude as far to the southwest as Murrinsville. An increase was noticed in new operations about Emlenton, particularly on the western side of the river. The Frye well on the Frye farm, along the Allegheny River between Emlenton and Foxburg, came in dry.

There are no indications in sight up to this writing (July 9th), which would go to show that the Cogley oil district will prove anything more than a small field with a limited area. The Patterson, Leedom & Hayes well on the Shippen tract, has been torpedoed with twenty quarts of glycerine, and is now pumping six barrels of oil and about as much water. The Fertig & Henne well, on the adjoining subdivision on the west, though still shut down, is estimated to be small or no better than a dry hole. The well on the Basset farm northeast of the Patterson, Leedom and Hayes well, is conceded to be dry. Judd & Co.'s venture on the Shorts farm, three-quarters of a mile south of the Cogley Oil Co.'s well, will make a small producer. By the owners it is rated at 10 barrels. On the last day of June there were 29 wells in the district with a production of about 1,150 barrels. The 19 wells completed in June had an estimated new production on the last day of that month of 529 barrels. Several test wells are being drilled northeast of the district towards and about Lineville.

The bowlder territory at Martinsburg is crowding nearer to the town every month. Three wells were completed there in June of the twenty-barrel order, and that of Adams & Co., on the Archibald-Kelley was about dry. The well on the Cannon farm, a short distance in advance of developments, which was mystified for a time has been opened up and is reported as good as the best wells in the field. The Argyle Oil Co.'s well on the Campbell farm, a mile and a quarter southwest of the old wells, did not prove as large a well as was expected from the showing which it made. At last accounts it was not rated above a 10-barrel pumper. The Columbia Oil Co.'s well on the Millinger farm, west of and on a line with the St. Joe fourth sand streak, failed to show anything but gas and salt water and is rated with the dusters. The well of Showalter Bros., on the Wiles farm, in the Pontius section, found no regular sand; only shells were encountered where the rock should have been deposited. There was a small amount of gas at the well, but no showing of oil. Smith & Co.'s well on the Bromfield farm, nearly three miles south of the Pontius farm, made a showing for a small producer.

THORN CREEK.

Thorn Creek failed to remain a bearish factor in market operations during the month of June, and from this section which has ruled the market for nearly a year, the bulls drew their inspiration for the late rise. The Lappe duster on the McElwaine farm, closed the last gap through which the streak or belt might be prolonged, and the only chance for additional territory now lies beyond the present defines of the field. Except a steadily-declining production there is nothing worthy of note in this late important section.

The average daily pipe line runs for the past three months have been as follows: April 9,333, May 7,488 and June 5,905 barrels. The scouts' gauge of the field July 4th showed a production of 3,752 barrels from 153 wells. Compared with the previous week's gauge there was an

increase of 5 wells and a decrease of 282 barrels in the production.

The field at the close of the month of June was in a demoralized condition. Three drilling wells were shut down; six had been partially drilled and abandoned, and seven more were fishing in the sand. The detailed list published elsewhere shows two new rigs, five old ones, and 24 wells drilling, making a total of 31. The report of May 31st had 12 new rigs, 1 old one, and 56 drilling wells, making a total of 69. The 32 wells completed in June had a new production on the last day of that month of 879 barrels. The 29 wells finished in May were producing 3,700 barrels on the last day of that month, and of the number six came in dry. The test wells drilled northwest of Thorn Creek came in dry. The Fisher Oil Co., who were interested in the test well on the Book farm in Muddy Creek township, found gas. Christie & Hays well on Semicolon Run was dry; also that drilled by Armstrong, Boyd & Co., in Muddy Creek township.

Butler and Armstrong Wild-Cat Wells.

Encouraged by the successful strikes at Thorn Creek, the indefatigable searcher after fresh fields, has turned his attention to the southwest, and is energetically at work puncturing the rocky crust of old mother earth at various points between Butler and the Ohio river. The list of wild-cats in Butler and Armstrong counties, with their condition on July 18th, as arranged by Mr. B. S. Tupper, the painstaking scout and field man, is given below:

Farm.	Operator.	Depth.	Remarks.
Becket	Cochran	1540	Rapidly nearing sand.
Kelley	Gibson & Co	1525	Rapidly nearing sand.
Bredin	Gibson & Co	1260	Shut down.
Millinger	McGrew Bros.	1300	Gas lifts casing.
Fry	Fry & O'Donnell	600	Shut down
Parnassus	Boyd & Co	1200	
Duffey	Boyd & Co	100	
Helmbold	Leedicker	350	
Ruler	Fleming	1300	Will complete this month.
Buhl	Clark	1250	
Maharg	Capt. Barnum	1100	
Patterson	Phillips	1375	
Byerley	Phillips	625	
Brown	Smith & Nulty	700	
Sarver	Kiskadden	1300	Shut down.
Douthett	Straight R. O. Co	650	
Mortimer	Hite & Co	1600	Complete this month.
McCann	Brown & Co	450	Fishing.
Wm. Bartley	Frederick & Co	400	
McCray	Hunter & Cummings	1500	Crooked hole.
Ort	Centennial Oil Co	1450	Tools fast in hole.
J. Pontius	Lynch & Dailey	400	Stopped. In litigation.
O'Donnell	Showalter	1300	Sand this month.
Douglas	Phillips	Rig	At Slippery Rock.
Mars	Crawford & Co	Rig	At Mar's Station.
Harbison	Hatch & Co	Rig	Probably not drill.
Denny	Hatch & Co	Rig	Probably not drill.

A total of 23 drilling wells and 4 rigs as compared with 24 drilling wells and 3 rigs on July 11th.

Two and one-half per cent. is the rate of insurance required on oil refineries in Oil Creek Valley.

The Decline of Thorn Creek.

The gradual decay of the Thorn Creek field is best illustrated by a comparison of the gauges at different dates. The following table shows the steady increase in the number of producing wells and the varying rate of the daily output:

Date. 1884.	No. Producing Wells.	Production. Barrels.
November 9	11	7,046
November 15	18	15,445
November 20	20	10,221
December 1	24	7,855
December 8	25	5,768
December 13	30	14,264
December 15	31	10,972
December 23	38	7,140
December 31	40	8,350
1885.		
January 12	43	5,340
January 30	51	6,688
February 4	52	5,941
February 14	57	5,727
February 28	63	7,341
March 18	73	7,144
March 28	77	5,875
April 4	81	8,542
April 11	89	12,290
April 18	96	11,037
April 25	100	8,682
May 2	103	8,653
May 9	106	7,515
May 16	112	6,142
May 21	116	5,932
May 23	119	7,387
May 30	124	8,884
June 6	131	6,423
June 13	135	5,374
June 20	145	4,247
June 27	148	4,034
July 4	153	3,732
July 11	154	3,439
July 18	156	2,959

On July 18th there were nine drilling wells in this late great gusher district. The largest well in the field was Fisher Oil Company's No. 7, on the Marshall, which was making 142 barrels. But two other wells in the field were doing above 100 barrels, Fisher No. 18 and Associated Producers' No. 13. Twenty-six wells were doing nothing at all, and thirty-nine were producing six barrels or less per diem.

The production of the Baldridge and Thorn Creek districts, as shown by the pipe line runs, has been as follows:

Month, 1884.	Runs.
April	25,325
May	32,885
June	29,070
July	27,545
August	26,134
September	79,324
October	187,068
November	284,806
December	270,644
1885.	
January	192,180
February	205,774
March	224,398
April	280,005
May	232,138
June	177,147
Total	2,274,443
Daily average (456 days)	4,988

Mr. B. F. Brundred, who with Wesley Chambers, Marcus Hulings and others, built the Union Refinery, up the creek from Oil City, now manages the Imperial Refinery for the Standard Oil Company at a salary of $7,000 per year. He is engaged at this salary for five years.

JUNE OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN JUNE, 1885.

Allegany Field.

Twp.	Owner.	Barrels.
Scio, lot 1,	Applebee Bros No 4	5
do lot 1,	Pickering & Smith	10
do lot 2,	Coast Oil Co No 32	7
Alma, lot 1,	Phillips Bros No 14	5
do lot 37,	Perrin & Young	5
do lot 37,	do	5
do lot 37,	do	7
do lot 87,	Shirley & Hochstetter No 2	5
do lot 107,	do No 8	5
do lot 79,	Kansas Oil Co No 1	5
do lot 120,	McCalmont O I Co No 4	3
do lot 120,	do No 5	3
do lot 108,	Associated Producers Co No 1	dry
do lot 18,	M J McMullen & Co No 10	5
do lot 140,	Duke, Willets & Rauber No 6	5
Wirt, lot 33,	Miner, Wellman & Fuller	5
do lot 34,	(Skinner farm) H H French & Co	5
do lot 34,	(Woodward farm) J S Patterson No 1	5
do lot 48,	(Hicks farm) Niles Oil Co No 3	5
do lot 48,	Nicholson & Co No 1	4
do lot 53,	(Burdick farm) Wilson & Ackerly No 3	5
Bolivar, lot 7,	W & J Duke No 17	10
do lot 7,	Coast Oil Co No 20	10
do lot 7,	do No 42	10
do lot 8,	Anderson Bros & Bryson No 2	5
Clarksville, lot 10,	Angell Oil Co	10
do lot 20,	Ackerly & Samuels No 2	10
do lot 20,	Clarksville Oil Co No 3	10
do lot 20,	Love & Penzer	10
Genesee, lot 8,	I Willets No 51	5
do lot 8,	do No 55	5
do lot 31,	H L McMullen & Co	5

Wells completed	32
Production	194
Dry	1

Bradford Field.

Buchanan, Bettell & Co.		7
Mill lot,	Whitney & Wheeler No 9	5
Kelly,	A K Darrow No 1	3
Rutherford,	J T Jones No 35	12
do	do No 36	12
do	do No 37	12
do	do No 38	12
Mack,	Columbia Oil Co	4
Stinson,	Asher Brown No 11	8
C B & H,	Watson Oil Co No 33	5
do	do No 34	10
do	R Y Mitchell	5
Van Campen,	Van Campen & Sons	8
Dodge,	Shear Bros No 9	5
Keating,	Forest Oil Co No 49	8
Keyes,	C P Collins & Co	5
Windsor,	Mallory & Co	5
Barse,	Bussell & Urquhart No 5	10
Bingham, lot 578,	Union Oil Co No 21	15
do lot 537,	do No 39	25
do lot 577,	do No 35	50
do lot 577,	do No 37	20
do lot 576,	do No 38	50
do lot 538,	do No 36	20
do lot 568,	Assoc ated Producers' Co No 50	25
do lot —,	Associated Producers' Co No 45	30
do lot 594,	Bayne & Fuller No 7	15
do lot 590,	do No 8	20
do lot 591,	T. J. Melvin No 7	10
do lot 565,	John McKeown No 3	20
do lot 565,	do No 4	25
do lot 577,	Rose & McLeod No 3	20
do lot 577,	do No 4	20
do lot 546,	C P Byron No 3	10
Niles Tract,	Chapin & Co No 5	5
Minard Run Tract,	Emery Oil Co No 104,	7
Bingham, lot 84,	Wm Fitzgibbons	dry
do lot 136,	P T & W C Kennedy	3
Warrant 3084,	Union Oil Co No 57	15
do 2268,	R J Straight No 13	7
do 3732,	Beatty, Sherman & Co	dry

Wells completed	41
Production	548
Dry	2

Warren and Forest.

Glade and other Towns.

Kinzua Village,	Swift, Porter & Conley	dry
do	S Harris (island) Fogel & Brown	6
do	Marsh, Pillips & Parker No 1	35
Wardwell,	Benedict & Robinson No 18	8
Irvine,	Brown Bros No 6	8
Struthers,	Fred Hayes No 1	3
Cobham,	Union Oil Co No 24	15
Leach,	S. A. Logan No 2	dry
Branch,	S C Rhodes No 4	3
Clark,	S M Coggswell & Co No 3	5
Rankin,	Fred Hue & Co No 2	8
Lacey, Butts,	Harley & Wangeman No 2,	8
McWilliams,	Picket & Stone No 7	8
Irvine,	T J Melvin No 4	8
Arnold,	Trubey & Co	dry
Magee,	Joseph Magee	3
Sutter,	P M Smith	3

Wells completed	17
Production	118
Dry	3

Clarendon.

35 and 53,	A J Thompson & Co No 3	6
do	do No 4	6
do	do No 5	6
35,	J. Smith & Son No 2	7
464,	Columbia Oil Co No 16	8
461,	Bines & Co No 3	5
80,	Thayer & Crosby No 7	6
498,	Porter & Tupper No 2	5
499,	Munro & Finuegan No 5	6
499,	E O Donnell & Co No 4	7
107,	W B Roberts & Son No 12	6
494,	Patterson & Solliday No 11	6
557,	Town Bros No 5	7
557,	Goal Bros No 6	6
558,	do No 8	7
5 8,	do No 10	6
557,	Dyson & Lowden No 8	7
558,	Sam Tait Jr No 2	6
592,	Clark, Foster & Co No 2	7

Wells completed	19
Production	120

Tiona.

104,	J L & J C McKinney No 1	10
104,	do No 2	8
110,	do No 27	8
110,	do No 28	8
110,	do No 29	8
109,	J R Kulm & Co No 8	7
109,	O F Shonblom No 9	6
161,	Charles Dunham No 6	6
165,	Whitehill & Co No 9	7
164,	(Gerner) Hill & Powell No 2	6
164,	do do No 3	6
201,	Wesley Chambers No 6	6
202,	(Hague) E O Emerson No 3	6
202,	do do No 4	5
204,	W J Wood & Co No 7	6
204,	(Farnsworth) E O Emerson No 2	6
205,	H B Beatty & Co No 11	5
206,	F G Keatley No 3	3
240,	(Tidewater) E O Emerson No 9	6
240,	Bride & Birney	3
241,	F W Winger No 8	8
241,	do No 9	8
241,	L Kraeer & Co No 8	8
241,	do No 9	8
243,	Cochran Bros No 1	5
281,	Horton, Crary & Co No 1	8

Wells completed	26
Production	172

Cooper District.

Cooper Tract,	Reno Oil Co No 7	10
437,	McCalmont Oil Co No 19	10
439,	do No 25	10
407,	Shank & Stewart No 5	8
Fox e tate,	Campbell & Co No 2	2

Wells completed	5
Production	40

Balltown.

3,194,	Porcupine Oil Co No 34	40
3,195,	Proper Reserve Oil Co No 8	50
5,215,	May, Kelly & Grandin No 32	50
5,215,	do do No 33	50

Wells completed	4
Production	190

Miscellaneous.

Wetmore twp, lot 374,	H Landsrath	dry
Watson	do 576, Dr Heath & Co	dry
Elk County,	Johnsonburgh, W Willard	White gas

Wells completed	3
Production	0
Dry	3

Lower Country.

Venango.

Farm.	Operator.	Barrels.
McCalmont,	S P McCalmont	5
McCormack,	Dale & Stepenson	3
Gates,	Fisher Oil Co	6
Long,	W H. Dufur	dry
Columbia,	Columbia O I Co (est)	20
Mt. Hope,	(Carner farm) Shepherd & Co No 1	dry
Pin Oak,	J B Smithman No 4 (est)	5
Nuhfur,	Oil City Fuel Supply Co	gas
McClintock,	William Orr	5
Steffey,	M C Martin & Co	gas
Henderson,	Henderson	dry
Karns,	J B Smithman	dry
Mitchell,	F W Mitchell (est)	5
Caldwell	(Pioneer,) Davis & Co (est)	10

Rockland.

Wellsby,	Armstrong, Boyd & Lee No 1	dry
Lusher,	do do No 1	dry
Ham Davis,	do do No 1	dry
Lovell,	Anchor Oil Co	16
Ham Davis,	Ham Davis	dry

Vicinity Emlenton.

Koyel,	Flynn Bros (est)	5
Cross,	S A Phillips	8
A Middleton,	Potorf Bros No 10	6
Robinson,	Pugh & Robinson	10
D M Crawford,	Daniels, Shell & Co (est)	8

Wells completed	24
Production	92
Dry and gas	10

Clarion.

Cogley Run.

Berlin,	Matson & Coldren (C R O Co) No 4	20
Young,	Koch Bros No 1	30
do	Staley & McDonald No 3	30
do	Urquhart & Lavens No 3	30
do	do No 4	50
do	do No 5	20
do	Roess Bros No 1	35
do	do No 2	25
Levi Kahl,	Staley & McDonald No 1	80
Shippen,	Patterson & Leedom No 1	10
Fisher	(Smithman,) J B Smithman No 4	30
Young,	Young Farm Oil Co No 1	30
do	do do No 2	15
Strutman,	Crawford & Brother No 1	60
Rickenbrode,	Fertig & Henne No 1	60
Gibbs,	do No 1	60
Kinnemuth,	Moore, Howe & Co	8
Bassett,	Frank Bassett & Co	dry

Various Sections.

Mehrton,	John Mehrton	8
Near Callensburgh,	Klingensmith & Co	dry
Smith,	Jacob Hahn	dry
Allen,	Foxburg Gas Co	2

Wells completed	22
Production	531
Dry	3

Butler and Armstrong.

Hermann Station,	Fisher Oil Co	5

St. Joe.

Neff,	Phillips Bros No 3	25
do	do No 4	25
Crouse,	do No 3	6
Muenster,	do No 7 (est)	50
do	do No 8 (est)	50
Mrs Witt,	McGuire & Co No 2	40
L W tt,	Greenlee & Co No 3	15
Millinger,	Columbia Oil Co	gas

Martinsburg.

Archibald Kelly,	Hooks Bros No 4	20
do	Adams & Co No 2	5
John Kelly,	Kelly & Edmunds	20
Fletcher,	W J McKee	20
Cannon,	Edwards & Co (est)	10

Various Sections.

Jennings,	R Jennings	6
Griffin,	Millerstown Oil Co	dry
S M Wiles,	Showalter Bros & Hartman	dry
Campbell,	J W McFarland & Co	dry
Fryer,	Fryer	dry
Seybert,	Seybert	1

Wildcats.

McKinney,	M L Lockwood	dry
Galloway,	Christie & Hays	dry
Hilliard Heirs,	Bly & Stage	dry
Muddy Creek (twp),	Armstrong, Boyd & Co	dry

Wells completed	24
Production	298
Dry	9

Thorn Creek.

Marshall,	Fisher Oil Co No 11	65
do	do No 19 (est)	125
Mushrush,	Phillips Bros No 11	12
Lavery,	do No 3	dry
do	do No 4	55
do	J H Markham No 2	15
do	do No 3	15
Ben Lavery,	Phillips Bros No 2	15
Troutman,	Smith & Co No 1	12
Buhl,	Assoc Producers' Co No 16 (est)	25
do	do do No 24 (est)	25
do	do do No 25	12
do	do do No 26 (est)	20

Mangell, Murphy No 2 5
do Sub Div 3, Markham & Gardan (est) 50
do Sub Div 7, W C McBride No 3 .. 125
do Sub Div 8, McClung & Co 50
do Stow Lease Sub Div 6, I E Ackerly & Co No 4 25
Girard, I E Aekerly No 5 40
do do No 6 8
Mangell, Thompson & Bolard No 3 10
do Greenlee & McIntyre No 2 75
do do No 3 ..... dry
Wise, K H McBride & Campbell 20
Maharg, O M Russell 20
Hartman, Boden & Aken No 1 10
Renfrew, Ireland & Hughes ..... dry
do Renfrew & White No 1 5
McElwaine, Lappe & Co ..... dry
Mates, Keifer & Lappe No 2 5
do do No 3 15
Wallaee, Wheeler & Co (est) 20

Wells completed 32
Production 879
Dry 4

DRILLING WELLS, RIGS UP AND BUILDING JUNE 30, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
4,	McEnroe & Elliott	sand
3,	Coyle (old)	rig
4,	H Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12,	do No 10 (old)	rig
50,	Union Oil Co No 8, (old)	rig
50	do No 9 (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Pickering & Smith	600
1,	Applebee Bros No 5	sand
1,	do No 6	rig
2.	Coast Oil Co No 33	drilling

New rigs 1
Old rigs 8
Drilling 4
Total 13

Alma.

1, Phillips Bros No 15 50
23, Vanee & Horton (old) ..... 3 rigs
24, New Milford Oil Co (old) ..... 2 rigs
24, W F Jones (old) ..... rig
26, Willetts & Elliott ..... rig
51, Sawyer & Co (old) ..... rig
55, W P Deeker No 3 ..... drilling
86, Finnegan & Co No 3 ..... drilling
78, Torry & Pirdun No 2 500
78, do No 3 ..... rig bldg
88, Duke & Co (old) ..... rig
142, Dean & Smith No 5 (old) ..... rig
12), McCalmont Oil Co (old) ..... 4 rigs
13, Triangle Oil Co No 15 1,000
106, Thornton & Dobbins No 4 ..... drilling
106, O'Connor & Shanley No 4 ..... drilling
108, Shirley & Hochstetter No 1 ..... drilling
86, do No 4 ..... drilling
79, Kansas Oil Co No 2 500
20, W F Coast ..... rig bldg
85, Associated Producers' Co No 1 .. rig bldg

New rigs 4
Old rigs 13
Drilling 10
Total 27

Wirt.

14, Lester & Co (old) ..... rig
33, Miner, Wellman & Fuller (old) .. rig
52, Allegany Gas Co (old) ..... rig
48, Nicholson & Co No 2 ..... rig
48, Hatch & Benson No 1 ..... drilling
48 do No 2 ..... rig bldg
48, Love & Co No 1 ..... rig
48, Collins & Leonard No 1 ..... rig bldg
34, (Skinner farm) H H Freneh & Co No 5 ..... sand
52, (Burdiek farm) Wilson Bros & Aekerly No 4 ... drilling
52, (Burdiek farm) Wilson Bros & Aekerly No 5. .. rig bldg
61, (I Jordan farm) Lester, Jordan & Co No 3 50
61 (I Jordan farm) Lester, Jordan & Co No 4 ..... rig bldg
34, J S. Patterson No 2 ..... rig

New rigs 7
Old rigs 3
Drilling 4
Total 14

Bolivar.

4, (Cole traet) Matson & Thompson No 1 ..... drilling
7, Coast Oil Co No 32 ..... rig
7, do No 33 ..... rig
7, do No 44 200
7, W & J Duke No 18 500
7 do No 19 ..... rig bldg
8, Anderson Bros & Bryson No 3 .. sand
8, do No 4 .. drilling
15, Sawyer & Co (old) ..... rig
23, F C Streeter & Co No 7 (old) ..... rig
23, Irwin & Morgan No 5 (old) ..... rig
30, Fritz & Lowry No 8 (old) ..... rig
30, do No 10 (old) ..... rig
31, Smith & Co No 10 (old) ..... rig
32, Hazelwood Oil Co No — 300
19, Pliny Parker ..... drilling

New rigs 7
Old rigs 6
Drilling 3
Total 16

Clarksville.

9, Heuston & Breeht No 4 (old) ..... rig
9, Merritt (old) ..... rig
13, Warner & Gleason ..... sand
20, Aekerly & Samuels No 3 200
20, do No 4 ..... rig bldg
20, do No 5 ..... rig bldg
21 (Holmes farm) Aekerly & Samuels No 1 50
20, Love & Penzer 100
3, Keystone Gas Co (for gas) ..... drilling
21, (Congden farm) Barton & Hammond No 1 800
10, Whipple Bros No 11 ..... rig bldg
10, Ross, Madison & Wasson ..... rig bldg

New rigs 4
Old rigs 2
Drilling 6
Total 12

Genesee.

8, I Willetts (to the top of sand) ... drilling
14, Merwin (old) ..... rig
21, Empire Gas Co (old) ..... rig
22, I Willetts No 14 (old) ..... rig
22, do No 15 (old) ..... rig
22, do No 16 (old) ..... rig
22, do No 17 (old) ..... rig
22, do No 18 (old) ..... rig
22, do No 19 (old) ..... rig
23, Hughes & Coughlin (old) ..... rig
23, Emery Oil Co No 16 (old) ..... rig
23, do No 17 (old) ..... rig
Champlain Emery Oil Co No 8 (old) rig
29, William Cranston (old) ..... rig
38, S E Young (old) ..... rig
38, Empire Gas Co (old) ..... rig
14, (Bliss farm) C W Scofield No 12 .. rig

New rigs 1
Old rigs and shut down 16
Drilling 00
Total 17

Bradford Field.

East and West Branches.

Paton, McClure & Co (old) ..... rig
Clark, McCray Bros (old) ..... rig
Willis, do (producing) 550
Glass, Barnsdall Bros (old) ..... rig
Dent, P C L & P Co No 64 (old) ..... rig
do do No 65 (old) ..... rig
do Whitney & Wheeler No 40 (old) rig
Paul, James Alum & Co No 5 (old) .. rig
Wilson, West Branch Oil Co No 11 (old) ..... rig
Cary, W H Dunean No 4 (old) ..... rig
Maek, Fisher Bros No 19 (old) ..... rig
Hinehey, McMurray Bros No 6 (old) rig
Warrant 3908, J B Mumford ..... drilling
Mack, Columbia Oil Co (old) ..... rig
Stinson, Asher Brown No 12 ..... drilling
Whittaker, Frank Davis No 3 (old) .. rig
Clark, Rolfe Bros No 27 (old) ..... rig
Rutherford, J T Jones No 33 400
do do No 40 400
do do No 1 ..... rig

Quintuple.

25, O H Strong (old) ..... rig
44, J W Humphrey (old) ..... rig
220, Clark, Stearns & Co (old) ..... rig
260, E T Howes (old) ..... rig
—, Camp & Zane No ..... rig bldg

New rigs 2
Old rigs and shut down 19
Drilling 4
Total 25

Kendall Creek.

Melvin, P C L & P Co No 85 (old) ... rig
do do No 86 (old) ... rig
do do No 87 (old) ... rig
Borden, Urquhart & Lavens (old) ... rig
Morton, Dan Clark No 3 (old) ..... rig
do do No 4 (old) ..... rig
Willets, I Willets (old) ..... rig
Fisher, Larabee & Wheedon No 7 ... drilling

New rigs 0
Old rigs 7
Dril ing 1
Total 8

Foster Brook.

E T Co, Boyne, Penny & Coleman No 11 (old) ..... rig
do F L Blackmarr & Post No 5 (old) ..... rig
do Utter & Co (old) ..... rig
C B & H, Watson Oil Co (old) ..... rig
do do No 35 ..... rig
do do No 36 ..... rig
do C Wilder ..... rig bldg
do Mosier Bros 100
do Juter & Yager (old) ..... rig
do P W Bulger & Dana No 2 900
E T Co, O A Childs & Co No 18 (old) rig bldg
C B & H, lot 45, W W White 200

New rigs 3
Old rigs and shut down 7
Drilling 3
Total 13

Four Mile.

Van Campen, Wm M Brown (old) ... rig
do Merrill & Perrin (old) ... rig
do Geo Van Campen & Sons No 22 ..... drilling
do Wm Doe No 8 1000
Waters, Griffin & Howard No 2 (old) rig
C B & H, James Smith (old) ..... rig
Stevens, Burns ..... drilling

New rigs 0
Old rigs 4
Drilling 3
Total 7

Indian Creek.

Barse, Union Oil Co No 36 (old) ..... rig
North Branch, J D Downing & Co (old) ..... 2 rigs
Hamlin, Miller & Odell No 4 (old) ... rig
Zimmer, Shear Bros (old) ..... rig
Dodge, do No 10 ..... rig
Weston, J L McKinney & Co (old) .. rig
do do No 2 ... 1200
do do No 3 ... rig bldg
Barse, Mitchell & Co No 5 300
do Unknown ..... drilling
Morse, Morse & Brown (old) ..... rig
Miles Loop, Union Oil Co No 25 (old) rig
Keating, Forest Oil Co No 50 ..... 50 feet
Dodge, Fair & Co No 2 800

New rigs 2
Old rigs 8
Drilling 5
Total 15

Cole Creek.

Rew, Capt E Frawley (old) ..... rig
Warrant 2263, Union Oil Co No 6 (old) rig
do 2263, do No 7 (old) rig
Bingham, lot 578 do No 29 1500
do lot 495 do No 3 .... rig
do lot 560 do No 30 .... sand
do lot 576 do No 32 800
do lot 576 do No 33 500
do lot 576 do No 39 300
do lot 536 do No 31 .... rig
do lot 536 do No 32 (old) rig
do lot 418 do No 27 .... sand
do lot 425 do No 28 .... sand
do lot 495 do No 4 .... rig
do lot 539 do No 41 .... rig
do lot 547 do No 40 .... rig
do lot 548 do No 35 .... rig
do lot 535 do No 33 .... rig
do lot 551 do No 22 .... rig
do lot 551 do No 24 500
do lot 573 do No 23 .... rig
do lot 566 Assd Producers Co No 46 (old) ..... rig
do lot 584 do No 48 (old) rig
do lot 585 do No 49 ..... drilling
do lot — do No 51 ..... sand
do lot 567 Rose Byron & McL 1000
do lot 590 Bayne & Fuller No 9 1500
do lot 591 T J Melvin No 8 1500
do lot 591 do No 9 200
do lot 548 C P Byron No 1 300
do lot 538 do No 2 .... rig
do lot 547 do No 1 .... rig bldg
do lot 614 Rose & McLeod No 7 1000

New rigs 10
Old rigs 7
Drilling 16
Total 33

Kinzua.

Warrant 3084 Union Oil Co No 58 1000
do 3084 do No 59 .... rig bldg

do 2253 Hazelwood Oil Co ---- 100
do 2268 R J Straight No 14---rig bldg
Niles tract, Chapin & Co No 6 ---- 1900
do do No 7 ---- rig
Bingham, Emery Oil Co No 18---- rig
Warrant ——, Beatty Sherman & Co. 50

New rigs---- 4
Old rigs---- 0
Drilling---- 4
Total---- 8

Warren and Forest.

Glade and Other Towns.

Kinzua Village, W. Hayes' Island, Brown & Fogel- drilling
do Marsh, Dr Van Scoy (pumping)---- sand
do Rollin, W W White-- rig bldg
Wardwell, Bonediet & Robinson No 19-- drilling
do do No 20-- rig
North Warren Asylum, Hoffman & Eldred-- sand
Elk Twp, (5542), Roman, Schnur & Co-- drilling
Irvine, Brown Bros No 7---- 100
Struthers, Fred Hayes No 2---- sand
do do No 3---- rig
Wardwell Island Lenhart & Pratt rig bldg
James Roy, Trubey & Co---- rig
McWilliams, Picket & Stone ----rig bldg
Eddy, Butts, Harley & Waugeman No 2-- 700
Irvine, T J Melvin No 5---- 200
Briggs, Russellsburg, Wesley Chambers-- drilling
Rogers, Barnsdall Bros No 14 (old) -- rig
do do No 15 (old)-- rig
Lot 470, do ---- sand

New rigs---- 6
Old rigs---- 2
Drilling---- 11
Total---- 19

Clarendon.

35, Hennessey & Murphy No 1---- 400
35, Hazeltine & Bell No 5---- drilling
35, do No 6---- rig
35, do No 7---- rig
35, J B McElwaine & Windsor---- drilling
35, J Smith & S n No 3---- rig
35 and 53, A J Thompson & Co No 6 drilling
" " No 7 drilling
" " ---- rig
53 Union Oil Co No 26---- drilling
54, D Beatty & Son No 36 (old)---- rig
78, " (old) ---- 2 rigs
496, " No 6---- sand
496, " No 7---- rig
—, Topper & Porter No 3---- rig bldg
496 P Kratzer No 4 ---- 1000
496, Wm O Neil No 3---- rig
496, Fred Hue No 9---- 100
464, South Shore Oil Co No 9---- 900
499, E O'Donnell No 5---- rig
464, Bines & Rogers No 3 ---- 900
465, Wm Pagett No 4---- rig
80, Thayer & Crosby No 8---- 600
80 Irvine No 5 ---- rig
106 Golden & Co (old)---- rig
107, W B Roberts & Son No 13---- sand
107 " No 14---- rig
108 C H Filkins (old)---- rig
495 W W Ballard (old)---- rig
108 Thos Hackett No 2---- 200
558 Goal Bros---- drilling
558 " ---- drilling
558 " ---- rig
558 Sam Tait Jr No 3---- rig bldg
583 F H Rockwell & Co No 15---- sand
583 " No 16---- rig
592, Clark, Foster & Co No 3---- 100

New rigs---- 15
Old rigs---- 6
Drilling---- 17
Total---- 38

Tiona.

83, Booth Bros & Co No 1---- rig
111, E O Emerson No 1---- sand
59, J L & J C McKinney (shut down) sand
103, " No 3---- drilling
103, " No 4---- rig
103, " No 5---- rig
103, " No 6---- drilling
104, " No 3---- rig
110, " No 30---- drilling
110, " No 31---- drilling
109, O'Donnell, Hill & Co No 3---- 500
109, J R Kuhn & Co No 9---- rig
161, Helm & Mealey No 11---- drilling
161, Charles Dunham No 7---- 200
161, " No 8---- rig
165, Whitehill & Co No 10---- rig bldg
164, Hill & Powell No 4---- rig
200, Bovee & Duck No 3---- rig
200, Wesley Chambers No 5---- rig
201, " No 7---- 600
201, " No 8---- rig
201, L H Best No 4---- sand
202, Mandell Oil Co No 2---- sand
202, (Hague) E O Emerson No 5---- drilling
202, " No 6---- rig
158, " " No 1---- rig
203, J H Markham & Co---- rig
204, W J Wood & Co No 7---- sand
204, " No 8---- rig
204, Booth, Bovaird & Seyfang No 13 1000
204, " " No 14 rig
205, Bright & Co---- 600
205, Wm O Niell---- rig bldg
205, H B Beatty & Co No 12---- sand
205, " No 14---- rig
240, Cochran Bros No 3---- drilling
241, F W Winger No 10---- 100
241, L Kraeer & Co No 3---- 100
241, " No 10---- 300
241, " No 11---- rig
243, Cochran Bros No 2---- rig

New rigs---- 20
Old rigs---- 1
Drilling---- 20
Total---- 41

Cooper District.

401, Anchor Oil Co (old)---- rig
324, M Murphy---- sand
408, McCalmont Oil Co No 25---- 500
408, " ---- rig
408, " ---- rig bldg
407, Shank & Stewart No 6---- rig
2735, Reno Oil Co No 8---- rig
Cooper, Campbell, Morck & Co No 4 rig bldg

New rigs---- 5
Old rigs---- 1
Drilling---- 2
Total---- 8

Balltown.

3194, Porcupine Oil Co., No. 21 (old)- rig
3195, Clark & Co---- rig
4821, Balltown Oil Co No 23 (old)---- 100
4821, " No 24 (old)---- rig
4821, " No 25 (old)---- rig
4792, Howe Oil Co No 17 (old)---- rig
4792, " No 18 (old)---- rig
5215, May, Kelley & Grandin No 34-- rig

New rigs---- 1
Old rigs---- 6
Drilling---- 1
Total---- 8

Miscellaneous.

Limestone Twp, 5225, A M O'Donnell & Co---- drilling
Cherry Grove, 664, Howard, Thompson & Jones---- 700
West Hickory (McIntyre), James E Cochran ---- sand
" (Shamburg), Dr Shamburg ---- drilling
Forest, 3561, W B Roberts & Son---- sand
Tidioute Creek, Beardslee---- drilling
Forest, 5214, Jas Goff & Welsh---- rig
Grand Valley, W W Hague---- sand

New rigs---- 1
Old rigs---- 0
Drilling---- 7
Total---- 8

Lower Country.

Venango.

Hasson, Hasson---- 200
McCalmont, S P McCalmout---- drilling
" " ---- rig
McCormack, Dale & Stephenson No 4 700
" T H Phinney & son---- rig bldg
Columbia, Columbia Oil Co---- rig
Mt Hope, (Harrington farm) Shepherd & Co---- 100
Mt Hope, Stroup, Shepherd & Co---- rig
Beirny, Richardson & Hughes----
Siverly, Shingledecker---- rig bldg
Kauffman, P H Judd & Geise---- 400
" Kauffman & Kugler No 3 100
Johnson, McKeever & McPherson---- 400
Widow Karns, J B Smithman---- rig
Norway tract, Robert McCalmont--- drilling
Lot 47, J J Fisher No 5---- rig
Allison, " No 6---- rig
Dan Hetzler, Leckey & Co---- 300
Haney, Goetell, Roess & Co---- rig
Cottage Hill, Hasson & Co---- rig
Isaac McKinney, Clark & Co---- rig bldg
Button, Kemp & Co---- rig bldg
Levier, Armstrong, Boyd & Lee---- rig
Young, " " ---- rig
Lovell, Anchor Oil Co---- rig
Morrow, " ---- rig
Vicinity Church Run, Lyman, Stewart & Co---- drilling
Hughes, Beeson---- 100
East Sandy, Jack Bros---- 200

Bullion.

Crawford, Hoffman & Co---- drilling
Porter, Porter---- 500
Kellerman, Hovis---- drilling
Surena, " ---- rig
Plummer, A Kerr---- rig
Cross, Hovis---- rig
Dongherty, Hoffman---- rig
Hovis, Gilbert & Co---- rig
Ballott, W T Baum---- rig
Kennerdell, Riddle & Co---- rig

Vicinity Emlenton.

Jew farm, Jamison & Co---- 1000
Sloan, Sherry & Knight No 3---- rig
Cross, S A Phillips No 2---- rig
McCullough, Porterfield & McCombs 100
" Messer---- rig
Crawford, Crawford & Halderman.. rig
Middleton, M R Martin & Co---- rig
Leslie Sloan, Stevenson & Co---- 100
Ritchie, Chas Ritchie---- rig bldg
David Crawford, Wilkins & Co---- rig bldg
" A A Hopkins---- rig
Grant, Jno P Crawford---- rig bldg
Robinson, Middleton, Maxwell & Rowley---- 400
Osman, Porterfield & Co---- rig bldg

New rigs---- 33
Old rigs---- 0
Drilling---- 19
Total---- 52

Clarion.—Cogley Run.

Young, Matson & Coldren, C R O Co No 5-- sand
" " " No 6-- 400
" " " No 7 - rig bldg
" Koch Bros No 2---- rig bldg
" Staley & McDonald No 4---- 300
" " No 5---- rig
" Wood & McIntyre No 2---- sand
" " No 3---- rig
" " No 4---- rig bldg
" Urquhart & Lavens No 6--- 188
" " No 7--- rig
" Roess Brothers No 3---- 500
" " No 4---- 300
" " No 5---- rig bldg
" Young & Stover No 1---- sand
" Young Farm Oil Co No 3--- 400
" " No 4--- rig
" McClellan & Co No 1---- 900
" " Mo 2---- rig
Fisher, (Smithman) J B Smithman No 5-- 800
" " " No 6-- rig
" " No 4-- 600
Kahl, Flynn & Co---- sand
Frederick, Gifford Booth & White No 2---- rig
Fisher, Staley & McDonald No 1---- rig
Geo Berlin, Patterson & Leedom No 2 600
Strutman, Crawford & Bro No 2---- 300
" " No 3---- 250
Rickenbrode, Fertig & Henne No 2-- 200
Gibbs, " No 2 - sand
" " No 3-- drilling
" " No 4-- 300
" " No 5-- rig
Hale, Hoover & Co ---- rig
Powell Swab, Rickenbrode & Co---- rig
Widow Miller, Kahl Bros---- 750
Peter Confer, Rickenbrode, Glatzau & Turner---- 200
Bacchus, Bacchus Farm Oil Co---- sand
Eli Kapp, Austin & Son ---- 100
Adam Rapp, Havenor & Co---- rig bldg
Levi Kale, Springer & Co---- rig
Etcell, Wesley Chambers---- 200
Strutman, Roess Bros No 1---- 200
" " No 2---- rig
" H C Zeigler No 1---- 200
John Fern, Booth & White---- rig bldg
Widow Heeter, Heeter Bros---- rig
Black, Amos Harrington---- rig bldg
Shippen, Fertig & Henne---- sand
Leibrun, Moore, Bros & Co---- rig bldg
" Warner---- rig bldg
Wm Meagley, Dunn & Baker ---- rig bldg
M P Hess, Koch Bros---- 500
" Gillespie & Tomlinson-- 400
Shorts, Judd, Lewis & Co---- sand
McCauley, Lineville, Groener Bros-- 200
Deitrich, Yonkers & Co No 2---- 300
O'Garra, McCalmont Oil Co---- rig
Beals, Crawford & Co ---- rig

Various Sections.

Piney, Weitehill Bros (old)---- rig
Rimersburg, Mortimer, Hite & Co (fishing)---- 750
West Edenburg, Kribbs & Simpson- rig
Panton, Panton (old)---- rig
Smith, Jacob Hahn (old)---- 2 rigs
Deer Creek, H B Whitehill---- drilling
Wagner (Clarion), Wagner & Hahn- sand
Black, Boardley Black---- drilling

New rigs---- 27
Old rigs---- 4
Wells drilling---- 37
Total---- 68

Butler and Armstrong.

Michael, Hunter & Cummings 1500
McCray, " No 2 ..... 7 0
Leithold, " No 1 1300

St. Joe,

Muenster, Phillips No 9 ..... sand
Sales, McGuire & Co No 1 300
Martin, Ireland & Hughes ..... rig bldg

Martinsburg.

Abner Kelley, Pres Black & Co (old) ..... rig
Wm Story, Bovaird & Beatty 700
M P Black, Devitt & Byers 100
" W J McKee No 1 ..... rig
Daubenspeck, Short & Co 700
Kennedy & Kelly, W J McKee No 1 ..... rig
D P Kelly, Brawley Bros ..... rig
Dixon & Bartley, Walker & A L Campbell ..... rig
Bartley, Brackney & Co ..... rig bldg
John Kelly, Klingler & Jordan 700
" " ..... rig bldg
" Kelly & Black ..... rig bldg
Alexander, Brown & Stanton ..... rig
Abner Kelley, W A Kelley ..... rig
Thos Smith, Harrington & Co ..... rig
Turner, W J McKee 700

Various Sections.

Jennings, R Jennings 100
McClelland, A Crittenden 300
Brookfield, Snee & Co 1300
Schultz, Christee ..... rig
" Rigney & Co ..... rig
Mrs Ott, H L Westerman & Co (fishing 500
McLaughlin, Donohue & Co (fishing) 1100
W L Brown, Morrison & Co 400
Frye, Fryer ..... rig bldg
O Donell, Showalter Bros & Hartman 400
Eli Reep, Reep & Sutton 100
Shutlis, Rigney & Co ..... rig bldg
Isaac Reep, Westerman Bros & Turner ..... rig bldg

J Pontius, Ritter & Bott ..... rig bldg
" Lynch & Darlihg ..... rig

Wildcat Operations.

Bredin & Donaghy, Bredin twp, Armstrong, Boyd & Co 300
Wm Kelly, Gibson & Co 1000
Bredin, Hite & Co 1000
Harbison, (Jefferson twp), Hatch & Co (old) ..... rig
Denny, (Winfield twp), Hatch & Co (old) ..... rig
Sarver's Station, Kiskadden & Co (fishing) 700
Rider, (Buffalo twp), Wm Fleming & Co 800
E A Helmbold, (Winfield twp), Leidecker Bros ..... rig
Fry, near Saxonsburg, O'Donell & Fry (shut down) 500
McCann, Brown & Marshall (fishing) 450
Bicket, Cochran & Co 1550
Wick's Station, Fisher Oil Co ..... rig bldg
Buhl, West Reibold, N F Clark & Co 600
Maharg, E H Barnum & Co 300
James Patterson, East Thorn Creek, Phillips Bros 500
Douthett, Straight Run Oil Co ..... rig
Parnassus, Armstrong, Boyd & Co ..... rig

New rigs 22
Old rigs 3
Drilling 29
Total 54

Thorn Creek.

Marshall, Fisher Oil Co No 15 (plugged and abandoned) ..... sand
Lavery, Phillips Bros No 2 (aband'd) 1000
" J H Markham, No 4 (old) ..... rig
" Stewart & Klingensmith No 1 1500
" " No 2 1000
Ben Lavery, Phillips Bros (old) ..... rig
Trontman, " No 1 (shut down) 500
Troutman, Phillips Bros No 2 1300
" " No 3 750
Kennedy, Assoc'd Producers Co No 17 (fishing) ..... sand
Buhl, " No 7 (fishing) ..... sand
" " No 27 1500
Mangell M. Murphy No 6 (fishing) ..... sand
Mangell, (Murphy & Co 50 acre pur) sub div 15 Murphy & Co (aban'd) 450
" " sub div 16 " 112
" " sub div 4 Thompson & Bolard No 1 1000
" K H McBride & Campbell No 2 (fishing) ..... sand
" " No 3 ..... rig
" " No 4 ..... sand
" Stowe lease sub 4 W C McBride & Co No 1 (fishing) ..... sand
" Stowe lease sub div 7 I E Ackerly No 7 (shut down) 400
" Thompson & Bolard No 4 (Aban loned) 200
" Greenlee & McIntyre No 1 (fishing) ..... sand
Noel, Stow & Clark No 2 150
" " No 3 1750
" " No 4 (shut down) 700
McLaughlin, Bennett & Holman 900
" Clark & Sutton No 3 300
Hartman, Boden & Aiken No 2 (fishing) ..... sand
" " No 3 1700
" Markham & Co 1100
Chris Mangell, Phillips (old) ..... rig
Renfrew, Ireland & Hughes ..... rig bldg
Henderson heirs, Johnson Bros No 3 1400
Kennedy, Christie Bros No 2 (aban'd) 1150
Mates, Kifer & Lappe No 4 (old) ..... rig
" " No 5 (old) ..... rig
Wallace, White & Co No 1 950

New rigs 2
Old rigs 5
Drilling 24
Total 31

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	JUNE, 1885. Wells.	Prod'n.	Dry.	MAY, 1885. Wells.	Prod'n.	Dry.
Scio	3	22	0	5	23	1
Alma	12	53	1	9	49	1
Wirt	6	29	0	5	22	0
Bolivar	4	35	0	3	26	0
Clarksville	4	40	0	2	11	0
Genesee	3	15	0	1	8	0
Miscellaneous	0	--	--	2	0	2
Total	32	194	1	27	139	4

BRADFORD FIELD.

Division of Field.	JUNE, 1885. Wells.	Prod'n.	Dry.	MAY, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	9	75	0	7	73	0
Kendall Creek	0	0	0	1	8	0
Foster Brook	3	20	0	2	13	0
Four Mile	1	8	0	2	18	0
Indian & Meeks Creeks	5	33	0	3	28	0
Cole Creek	16	375	0	18	445	0
Kinzua	7	37	2	4	18	2
Total	41	548	2	37	603	2

WARREN AND FOREST.

District.	JUNE, 1885. Wells.	Prod'n.	Dry.	MAY, 1885. Wells.	Prod'n.	Dry.
Glade	17	118	3	13	60	4
Clarendon	19	120	0	22	140	0
Tiona	26	172	0	26	174	0
Cooper	5	40	0	4	15	3
Ballitown	4	190	0	2	80	0
Miscellaneous	3	0	3	0	0	0
Total	74	640	6	67	469	7

LOWER COUNTRY.

District.	JUNE, 1885. Wells.	Prod'n.	Dry.	MAY, 1885. Wells.	Prod'n.	Dry.
Venango	24	92	10	20	186	3
Clarion	22	531	3	14	184	3
Butler and Armstrong	56	1177	13	47	3897	12
Total	102	1800	26	81	4247	18

GRAND SUMMARY.

District.	JUNE, 1885. Wells.	Prod'n.	Dry.	MAY, 1885. Wells.	Prod'n.	Dry.
Allegany	39	194	1	27	139	4
Bradford	41	548	2	37	603	2
Warren and Forest	74	610	6	67	469	7
Lower Field	102	1800	26	81	4267	18
June Total	256	3182	35	212	5478	31
May Total	212	5478	31			
Difference	44	2296	4			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	MAY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	1	8	4	13	1	9	4	14
Alma	4	13	10	27	12	10	11	33
Wirt	7	3	4	14	3	3	3	9
Bolivar	3	6	7	16	1	8	4	13
Clarksville	4	2	6	12	2	2	5	9
Genesee	1	16	0	17	1	15	1	17
Miscellaneous	0	0	0	0	0	0	0	0
Total	20	48	31	99	20	47	28	95

BRADFORD FIELD.

Division of Field.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	MAY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches	2	19	4	25	5	14	6	25
Kendall Creek	0	7	1	8	0	8	0	8
Foster Brook	3	7	3	13	2	5	3	10
Four Mile	0	4	3	7	0	7	0	7
Indian Creek	2	8	5	15	2	8	4	14
Cole Creek	10	7	16	33	8	11	15	34
Kinzua	4	0	4	8	2	0	5	7
Miscellaneous	0	0	0	0	0	0	1	1
Total	21	52	36	109	19	53	34	106

WARREN AND FOREST.

Division of Field.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	MAY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	6	2	11	19	7	5	11	23
Clarendon	15	6	17	38	11	6	17	34
Tiona	20	1	20	41	20	3	20	43
Cooper	5	1	2	8	4	0	5	9
Bullown	1	6	1	8	2	6	2	10
Miscellaneous	1	0	7	8	4	0	5	9
Total	48	16	58	122	48	20	60	128

LOWER COUNTRY.

Division of Field.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	MAY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Venango	33	0	19	52	19	0	18	37
Clarion	27	4	37	68	24	1	18	43
Butler & Armstrong	24	8	53	85	28	4	94	126
Total	84	12	109	205	71	5	130	206

GRAND SUMMARY.

Field.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	MAY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	20	48	31	99	20	47	28	95
Bradford	21	52	36	109	19	53	34	106
Warren and Forest	48	16	58	122	48	20	60	128
Lower Country	84	12	109	205	71	5	130	206
Total June 30	173	128	234	535	158	125	252	535
Total May 31	158	125	252	5 5				
Difference	15	3	18	0				

June Production Report.

Reports of the stocks on hand at 6,084 Bradford wells, showed an average decrease of three and one tenth barrels to the well during June.

Time.	No. Wells.	Gross Stocks.	Average per well.
July 1, 1885	6,101	307,437	50.4
June 1, 1885	6,084	325,577	53.5
Difference	17	18,140	3.1

The number of wells in the Bradford field connected with the pipe lines on the 1st of July is estimated at 13,450. Estimating the entire Bradford region on the basis of three and one tenths barrels decrease, the total decrease in stocks at wells during June, was 41,695 barrels, a daily average of 1,390 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for June is as follows:

	Barrels.
Average Daily Pipe Line Runs	30,662
Average Daily Decrease of Stocks at Wells	1,390
Bradford's June Production, estimated	29,272
" May " "	27,231
Average Daily Increase	2,041

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
July 1, 1885	1,131	43,080	38.1
June 1, 1885	1,131	41,199	36.4
Difference	00	1,881	1.7

The wells from which reports were received had an average decrease of one and seven-tenths barrels to the well. With 3,835 wells in the field on the first of July, these figures give a total decrease for the field of 6,519 barrels, or an average decrease of 217 barrels per diem. Subtracting this amount from the average daily pipe line runs, 7,680, the remainder, 7,463, will represent Allegany's July production during June. The May average was 7,049 barrels.

The Bradford and Allegany fields both show an increased production for June. An advancing market and the low price of torpedoes has stimulated renewed activity in cleaning out and re-shooting the old wells, which still retain life enough to respond vigorously, for a few weeks, to heavy charges of nitroglycerine.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells June 1.	No. Wells July 1.	Average per well June 1.	Average per well July 1.
Clarendon and Tiona	151	162	40	38
Cherry Grove	22	22	90	54
Cooper District	143	143	64	66
Thoro Creek	54	58	233	144
Lower Country	82	82	54	50
Miscellaneous	145	147	124	113

It will be seen that the stocks at wells in all sections of the region were greatly reduced during June. Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for June and May is as follows:

Field.	June. Barrels.	May. Barrels.
Bradford	29,272	27,231
Allegany	7,464	7,049
Outside Runs	21,559	21,225
Total	58,294	55,505

The above figures show an increase in the production of 2,789 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885:

	Bradford.		Allegany.		Ontside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481,	11,607	13,154	18,561	13,573	62,546	65,208
March	31,912	37,754	11,763	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,537	11,218	12,315	20,870	16,758	66,119	63,640
August	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
November	31,789	35,026	8,642	12,678	23,557	18,433	63,988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60'627	66,625
	1885.	1884.	1885.	1884.	1885.	1384.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16,140	55,529	59,240
February	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,596
March	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23,067	19,162	57,649	63,452
May	27,231	33,922	7,049	11,547	21,225	19,549	55,505	65,018
June	29,272	33,753	7,463	11,108	21,559	19,977	58,294	64,838

The production of the Bradford field for June is 4,481 barrels a day behind the June output of 1884. Allegany falls short of the June average of last year by 3,645 barrels, and the entire region shows a decrease of 6,544 barrels per diem from the figures furnished by the production report for June, one year ago, and 8,814 barrels a day less than the estimated output of June, 1883.

Henry H. Rogers, of Charles Pratt & Co., oil refiners, of New York, has presented to the town of Fairhaven, Conn., his native place, a building for school purposes which cost about $100,000. The town voted July 7th unanimously to accept it. It is said to be the finest school building in that part of the State. Mr. Rogers has also given the School Committee authority to purchase furniture, books, etc., for the building and send the bills to him.

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE.	June 27, 1885. Barrels.	May 30, 1885. Barrels.
London	137,281	120,042
Trieste	------	29,465
Seven Continental Ports	1,309,299	1,146,096
Total Stocks afloat and ashore	1,446,580	1,295,603
Increase in stocks since May 30	150,977	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1885. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS JUNE 27, 1885.

PORTS.	Stocks week ending June 27.		Stocks afloat week ending June 27.		Loading. Week ending June 27.		Grand total stocks afloat and loading.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	231,154	90,573	19,034	29,708	8,000	17,000	258,188	137,281	461,596	606,212	583,807	592,156
Trieste	40,006	-------	10,613	-------	-------	-------	51,579	-------	209,158	-------	155,869	-------
Bremen	796,581	445,182	111,120	25,608	51,000	38,000	958,701	508,790	811,296	630,387	909,342	981,786
Hamburg	172,545	189,813	98,281	42,429	40,900	87,100	311,726	319,342	875,894	1,057,537	1,036,456	1,040,089
Antwerp	125,790	105,622	77,678	22,779	37,000	23,000	240,468	151.401	826,771	1,004,376	911 359	1,024,724
Rotterdam	62,372	67,086	6 692	22,252	5,500	25,500	74,564	114,838	216,202	263 576	230,662	254,381
Amsterdam	43,007	30,178	15,746	26,416	8,000	6,000	66,753	62,594	269,478	236,601	263,314	249,443
Stettin	41,618	37,141	29,090	73,902	23,200	19,000	93,908	130,043	235,027	252,942	261,750	257,389
Danzig	8,459	9,033	10,208	9,258	-------	4,000	18,667	22,291	74,907	78,248	78,093	81,571
Total	1,250,372	884,055	348,815	222,644	165,600	202,600	1,764,787	1,309,299	3,309,575	3,523,667	3,690,976	3,889,373

	1882.	1883.	1884.	1885.
Total stocks exclusive Trieste	1,557,787	2'006,873	1,481,526	974,628
Total afloat, exclusive Trieste	348,568	312,420	367,849	252,352
Total loading, exclusive Danzig, London and Trieste	227,900	240,300	173,600	219,600
Total	2,134,255	2,559,593	2,022,975	1,446,580
Afloat and loading for direct Continental Ports	54,000	-------	36,500	14,300
" " " Baltic Sea, exclusive Stettin and Danzig	52,700	26,700	88,100	90,900
" " " English harbors, exclusive London	88,000	85,800	39,500	36,400
Grand total	2,328,955	2,670,093	2,187,075	1,588,18

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, MAY, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., JUNE 30, 1885.

CUSTOMS DISTRICTS.	MINER'L. CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.
Boston and Charlestown, Mass	-------	-------	-------	-------	509,855	46,860	27,971	5,393	-------	-----	537,826	52,253
New York, N. Y	2,813,686	203,438	795,517	64,627	29,512,215	2,612,459	1,360,893	241,787	946,638	62,459	35,428,949	3,184,770
Philadelphia, Pa	3,070,276	216,799	592,805	37,720	11,215,132	903,912	39 973	5,903	184,800	11,636	15,102,986	1,175,970
Baltimore, Md	-------	-------	-------	-------	595,414	56,418	15,172	2,352	205.464	9,269	816,050	68,039
San Francisco, Cal	-------	-------	1,000	450	23.710	5,353	1,344	1,010	-------	------	26,054	6,813
All other districts	309	29	1,720	205	2'0,697	13,938	7,301	1,973	84	12	210,111	16,157
Total for May, 1885	5,884,271	420,266	1,391,042	103 002	42,057,023	3,638,940	1,452,654	258,418	1,33i,986	83,376	52,121,976	4,504,002
Total for May, 1884	5,780,503	479,618	494,761	41,350	36,571,017	3,389,167	759,449	148,103	179,340	14,523	43,785,070	4,072,761
Total for 11 months ended May 31, 1885	75,602,240	5,515,252	14,789,948	1,184,076	412,704,041	36,129,409	11,860,151	2,416,405	5,931,744	337,924	520,888,124	45,583,066
Total for 11 months ended May 31, 1884	61,160.970	4,844,792	13,501,997	939,679	371,753,744	34,250,235	9,722,962	2,003,787	4,619,832	306,512	460,759,505	42,345,005

CRUDE QUOTATIONS FOR JUNE, 1885.

Day of Month and week.		BRADFORD.				OIL CITY.				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
M	1	79⅜	79⅜	78⅛	78¼	79¼	70⅜	78⅛	78⅛	79¼	79¼	78⅛	78	79	79⅛	78¼	78¼
T	2	78⅛	79⅜	78⅛	79¼	78¼	79⅜	78¼	79⅛	78⅛	79⅜	78	79¼	78¼	79⅛	78¼	79⅜
W	3	79⅜	79¾	79⅛	79¼	79⅜	79¾	79⅜	79⅛	79⅛	79⅞	79⅛	79¼	.9⅜	79⅛	79¼	79⅜
T	4	79¼	79¾	79¼	79½	79¼	79⅝	79¼	79½	79¼	79⅞	79¼	79⅝	79⅜	79¾	79⅜	79½
F	5	79⅝	79⅝	78⅝	78⅝	79½	79⅝	78½	78½	79½	79¾	78¾	78¾	79⅝	79⅝	78¾	78¾
S	6	78⅞	79¼	78¾	79	78½	79⅜	78½	79⅛	78¾	79⅜	78¾	79⅛	78⅞	79⅜	78¾	79⅛
M	8	79¼	79½	78¾	79¼	79¼	79½	78⅞	79¼	79¼	79½	79	79¼	79¼	79½	78⅞	79¼
T	9	79¼	80⅛	79⅛	79½	79⅛	80	79⅛	79½	79⅜	80¼	79⅛	79⅝	79¼	80	79¼	79⅝
W	10	79⅝	79⅞	79⅛	79⅜	79¾	80	79⅛	79¼	79⅝	80	79¼	79¼	79⅝	80⅛	79¼	79¼
T	11	79¼	79¾	79⅛	79⅝	79⅜	79⅞	79⅛	79¾	79¼	80	79⅛	79⅝	79⅜	79⅞	79¼	79⅝
F	12	79⅜	79⅞	79½	79½	80	80	79½	79⅝	79¾	80	79½	79½	79¾	79⅞	79⅝	79⅝
S	13	79⅝	79⅞	79⅜	79½	79⅞	79⅞	79¾	79⅜	79¾	79⅞	79¼	79½	79¾	79⅞	79½	79⅝
M	15	79⅝	81	79½	80⅝	79½	81	79½	80¾	80	81	79⅛	80⅞	79⅝	81	79⅝	80⅞
T	16	80⅞	81½	80¾	80¾	81¼	81⅝	80⅞	80⅞	81	81½	80⅞	80⅞	81⅛	81⅝	80¾	80¾
W	17	80⅞	81	80½	80¾	80⅜	81	8 ½	80⅞	80⅞	81½	80½	80⅞	80⅞	81	80⅝	81
T	18	81¼	81¾	81¼	81⅜	81¼	81⅞	81⅛	81½	81⅞	81⅞	81	81½	81⅛	81⅞	81⅛	81½
F	19	81⅝	82½	81⅜	82½	81⅜	82¾	81⅜	82⅝	81⅝	82½	81⅜	82½	81⅝	82½	81½	82½
S	20	83¼	83¼	82⅛	82⅝	82⅞	83¼	82⅛	82½	83¼	83⅜	82¼	82⅝	83⅛	83⅜	82¼	82½
M	22	82⅝	82⅝	81⅞	82⅛	82⅜	82⅝	81⅞	82	82½	82⅝	81¾	82½	82½	82½	81⅞	82⅛
T	23	81¾	83⅝	81¾	83½	81⅞	83⅝	81⅞	83½	81⅞	83¼	81¾	83¼	82	83¾	82	83¾
W	24	83½	86	83⅛	85⅛	83¾	86	83⅛	85¼	83¾	85¾	83⅜	85⅛	83⅝	85¾	83⅛	85⅜
T	25	85	87⅝	84⅞	87⅛	85¼	87⅝	85	87⅛	85¼	87⅝	85	87⅛	85¼	87½	85	87⅝
F	26	87¼	88¾	86⅜	87⅜	87½	88⅜	86½	87½	87½	88⅛	86¾	87⅜	87½	88¼	86¾	87½
S	27	87¼	90	87	89⅞	87⅜	90⅛	87	89⅞	87½	90	87	89⅞	87¼	90	87⅛	89⅞
M	29	90½	94	90⅜	93⅞	90½	94	90½	93½	92½	94	91¾	93⅝	90½	93⅞	90½	93½
T	30	94½	95⅞	92	92⅛	94¼	96	92	92	94	96	91½	92	94½	95⅞	91⅝	91¾

REFINED OIL AND REFINERIES.

The Thomas Brown Oil Company, of Erie, Pa., has been reorganized and has resumed business.

Wood & Correll, of Titusville, are refining about 750 barrels per week. They have been running for about one year. Mr. Frank Wood of the firm was formerly agent of the B., N. Y. & P. R. R. at Titusville.

D. E. Byles, of the Independent Refining Company, of Oil City, remains in New York most of the time and sells export oil for a number of the outside refineries in the region, as well as for his own company.

Articles of incorporation for a new company to engage in the manufacture of lubricating oil, were filed at Buffalo, June 30th. The new company is known as the Leader Lubricating Company, and the capitalists interested are T. Sawyer Phillips, of Buffalo; Sidney Smith, of Cambridge, Mass., and E. K. Hart, of Albion, N. Y. The capital stock is $250,000, and refineries are to be put in operation at Buffalo and Boston.

The Continental Refining Company, of Oil City, consisting of Louis Morris, Louis Walz and Thomas Anderton, have their refinery on the Clapp Farm, about a half mile up Oil Creek from the Independent, partially built at this writing, July 17th. They have purchased 200 acres of the Clapp farm for $8,000 in order to have plenty of room and secure a water supply from some springs on the hillside across the creek from where their works are located. They have erected one 500-barrel still of the "cheese-box" pattern.

Rice, Robinson & Witherop, of Titusville, have their refinery, on the opposite side of Monroe street from the location of Mayor Thomas' International Oil Works, now building. They formerly sold oil for the Standard, but severed their connection with that company and built their present works in 1880. They have branch houses at 60 Broad street, Boston, and 33 and 35 Pearl street, Buffalo. They have two 250 fire stills and two steam stills, one having a capacity of 135 and the other of 500 barrels.

The independent refiners are quite active in building new works or enlarging old ones along Oil Creek at the present time. At Titusville the American Oil Works, Limited, are building a refinery on Watson's Flats, below the city. The company has a capital stock of $12,000, and is officered as follows: President, James Seba; Secretary and Treasurer, Frank Tackey. J. S. Bradley and William Sodeman are interested in the company. The company have a plot of three and a half acres along the B., N. Y. & P. R. R. and D., A. V. R. R., and switches will be laid from each road to the works. They have a 650-barrel still of the cheese-box pattern in position.

Mayor James P. Thomas, of Titusville, acquired sufficient nerve, while playing the role of a cold man with the producers for the Roberts Torpedo Company, to tackle the refining business on an independent basis. He and H. C. Grenner, late business manager of the Titusville *Herald*, have purchased the grounds and dismantled works of the Gibbs & Sterrett Manufacturing Company, on Mechanic and Monroe streets, and are erecting a refinery under the name of the International Oil Works. They have an abundance of water on their L shaped lot, which has an area of two and a quarter acres and will have private switches for shipping conveniences. Mr. W. S. Smith, late with the Atlas Refining Company, of Buffalo, is superintendent of the works and is now engaged in looking after their construction. They will erect two 500-barrel stills, and in the start will have a refining capacity of 3,000 barrels per week. Mr. Grenner will merchandise the oil manufactured by the company.

The Independent Refining Company, of Oil City, have their works up Oil Creek, just beyond the city limits. D. E. Byles is President of the company and A. D. Deming Secretary and Treasurer. They have works as complete and convenient in their appointment as any we have seen on Oil Creek. By special arrangement with the National Transit Company they get the oil which they boil in their two 250-barrel stills from the Cranberry district. They have nine gas fires under each of the stills, and pay a stipulated sum to the Oil City Fuel Supply Company per barrel on the amount of oil refined. The ravages done in April by the burning of two tar tanks have been repaired. The Oil City Boiler Works have a 1,500-barrel tank nearly completed for the firm, which will be used in storing export oil. The barrel heads used at this refinery are brought from Evansville, Indiana. During the summer they are making 120 fire test oil for export and find a ready sale for all they can refine. Mr. Deming is a pioneer in Oil City and was formerly in the photograph business with Frank Robbins.

The Refined Market.

During the first ten days of June, the market for refined ruled dull and sluggish, refiners refusing to concede buyers any reduction from the quoted prices. On the 16th prices were marked up 1-8, and heavy buying immediately commenced. A farther advance of fully 1-4 cents was made at the end of the month in sympathy with the rise in the price of crude.

The foreign markets all show higher quotations, and rates for ocean tonnage are also higher. Cases have been advanced to 9 3-8 to 10 1-2 cents, according to brand, but the business in this class of goods has been rather small. The domestic trade is fairly active, with unchanged quotations.

Mr. Geo. H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East, up to the first of July, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai, previously reported	784,818	329,750
" June	237,975	
Hong Kong, previously reported	296,695	485,625
" " June	248,536	
JAPAN—Yokohoma, previously reported	504,263	371,003
" " June	37,878	
Hiogo	427,498	202,100
Nagasaki	32,942	71,516
INDIA—Calcutta, previously reported	558,434	1,077,458
" June	93,637	
Bombay, previously reported	829,900	339,541
" June	-------	
Kurrachee	57,937	51,505
Point de Galle	50,026	-------
Madras	47,382	42,260
Rangoon	77,000	208,875
JAVA—Batavia	190,790	245,747
Anjier	479,427	738,355
SINGAPORE	107,882	98,220
Penang and Singapore	-------	28,900
Penang, June	96,725	75,680
Other Eastern ports	237,753	139,569
Total July 1	5,397,498	4,506,104
Total June 1	4,281,184	3,428,894
June clearances	1,116,314	1,077,210
Increase as compared with June last year	39,104	

REFINED QUOTATIONS FOR JUNE.

	New York	Philadelphia	Baltimore	London and Liverpool	Bremen	Antwerp
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	7¾	7⅝	7⅝	6⅛	7.05	17¼
2	7¾	7⅝	7⅝	6¼	6.90	17¼
3	7¾	7⅝	7⅝	6¼	6.90	17¼
4	7¾	7⅝	7⅝	6⅛	6.90	17¼
5	7¾	7⅝	7⅝	6⅛	7.00	17¼
6	7¾	7⅝	7⅝	6⅛	6.95	17¼
7						
8	7¾	7⅝	7⅝	6⅛	6.95	17¼
9	7¾	7⅝	7⅝	6⅛	6.95	17¼
10	7¾	7⅝	7⅝	6⅛	6.95	17¼
11	7¾	7⅝	7⅝	6⅛	6.95	17¼
12	7¾	7⅝	7⅝	6⅛	6.95	17¼
13	7¾	7⅝	7⅝	6⅛	6.95	17¼
14						
15	7¾	7⅝	7⅝	6⅜	7.10	17⅜
16	7⅞	7¾	7¾	6⅜	7.15	17½
17	7⅞	7¾	7¾	6¼	7.25	18
18	7⅞	7¾	7¾	6⅜	7.30	18
19	7⅞	7¾	7¾	6⅜	7.30	18
20	7⅞	7¾	7¾	6⅜	7.40	18
21						
22	7⅞	7¾	7¾	6⅜	7.40	18
23	7⅞	7¾	7¾	6⅜	7.40	18
24	7⅞	7¾	7¾	6⅜	7.35	18
25	7⅞	7¾	7¾	6⅜	7.35	18
26	7⅞	7¾	7¾	6⅜	7.35	18
27	7⅞	7¾	7¾	6⅜	7.35	18
28						
29	8	7⅞	7⅞	6½	7.45	18⅛
30	8⅛	8	8	6½	7.45	18⅝

Crude Market for June.

The monotony that has characterized the crude market for several months has been broken, and June records a very gratifying advance. Opening at 79 to 79 3-8, the first two weeks of the month proved a repetition of the fluctuations during May. During the third week more interest seemed to be taken in crude certificates, and prices seemed at length to have been lifted above the 80 cent point in order to there remain. The last five days of the month there was a return of the old time excitement, and the quotations were rushed up until 96 cents was reached on the 30th of the month. This was the highest point for June. The lowest, 78 cents, was touched in the Bradford Exchange on the 2d day of June. The month commenced with crude certificates at 79 1-4 and closed at about 92 cents.

In the rapid march of prices Thorn Creek has dropped entirely to the rear. No one looks longer to this quarter of the field to furnish anything new in the shape of surprises that can work an influence in depressing values. This phenomenal region has been effectually corralled, and all theories of an extension, east, south, southeast, or northeast have been thoroughly exploded by the result of the past month's developments.

The range of prices for June was 18 cents as compared with 4 3-4 cents in May, 4 3-8 cents in April and 8 cents in March. The average price for the month on the floor of the Bradford Exchange was 82 1-4 against 79 5-8 in May, 78 7-8 in April and 80 3-8 cents in March. The average price for June, one year ago, was 68 3-4 cents.

THE CLEARANCES.

	June. Barrels.	May. Barrels.
Bradford Oil Exchange	72,862,000	63,186,600
Oil City "	103,742,000	78,028,000
New York Consolidated Exchange	269,510,000	224,091,000
Pittsburgh Petroleum Exchange (new)	63,920,000	42,065,000
Total	510,034.000	407,370,000

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

MONTH.	1879	1880	1881	1882	1883	1884	1885
January	-----	110 1-5	95	83	92¾	111½	70¾
February	-----	103¼	89¼	85¼	101	104⅜	73⅛
Mareh	86	89	82⅞	80⅞	97½	100⅛	80¾
April	78⅜	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85¼	79⅝
June	68¾	100¼	81	54½	117¼	68¾	82¼
July	69⅜	101¼	76¼	57⅝	108	63½	
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92¼	71⅓	112½	78	
October	88⅛	96¾	92¾	93⅝	111⅛	71	
November	105⅜	91¼	82⅓	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

NEW PUBLICATIONS.

"Man's Birthright; or, The Higher Law of Property." by Edward H. G. Clark. Cloth, 134 pp. Price, 75 cents. Published by G. P. Putnam's Sons, New York.

This neat little volume may be read in an hour, but furnishes material for a vast deal of thinking. It is a fitting sequel to the political economy of Henry George. Its statements are concise and clear, and no exceptions can be taken to the method of reasoning. In these days of smothered discontent among wage workers, of socialistic outcries on the part of a handful of fanatical theorists in the West, of warlike outbreaks among the Canadian half-breeds, not to say anything of Nihilistic disturbances in Russia, and dynamite outrages in England, a plain statement of the relations that should exist between man and the material world about him ought to attract general and widespread attention. "Man's Birthright" presents a new solution to the question of the rightful ownership of land, and maps out a simple system of universal taxation. The author claims no originality in the fundamental statement of his work, that "the unconscious elements of the universe exist solely and exclusively for the use and benefit of the conscious." The book commands a careful perusal and deserves a million readers.

"Protection and Free Trade To-Day," by Robert P. Porter. James R. Osgood & Co.

A small pamphlet containing the paper read by the author at Boston in August, 1884, bears the above title. It is written from the standpoint of the extreme protectionist, and bears the seal of the Arkwright Club.

SECOND GEOLOGICAL SURVEY.

Report R. R. Part II. "The Township Geology of Elk and Forest Counties," by Charles A. Ashburner, and of Cameron County, by Arthur W. Sheafer.

The above report relates especially to the Geology of the Coal Measures of the Carboniferous Age. Part I will bear upon the conclusions derived from accurate investigations of the gas and petroleum borings in Northwestern Elk. In regard to the possibility of the discovery of petroleum in Elk and Cameron Counties, Mr. Ashburner says: "The facts bearing upon the geological structure of Elk and Cameron Counties, which have been obtained from the surface explorations and from the records of the numerous drill holes, which have been bored, lead me to conclude that the geological conditions characteristic of the productive oil areas in Pennsylvania, do not exist in Cameron County, or in that portion of Elk County east of a line drawn through Spring Creek and Wilcox; and, therefore, that boring for oil east of this line will be prosecuted under great risks, with all the chances against finding oil in paying quantities." The report is accompanied by an atlas containing eleven valuable maps and sectional diagrams.

A PIPE-LINE has been laid from the Mt. Nebo well to Emsworth Station, on the Pittsburgh, Ft. Wayne & Chicago R. R. The first oil was run Friday, July 10, when two tank-cars were filled for shipment.

THE largest shot ever known to have been exploded in an oil well, was set off in L. Kraeer & Co.'s No. 4, on lot 241, near Tiona, on the 10th of June. This well was shot for the first time on April 10th, when 125 quarts of the explosive were used. It stopped producing and the owners determined to shoot again. This time the enormous amount of 300 quarts (1,000 pounds) was let into the hole and exploded. The results were terrific and the production of the well was raised to fifty barrels a day.

THE deepest drilled hole in the world, according to a German newspaper, has been put down at the village of Schladebach, near Kotschau Station, on the road from Corbettia to Leipzig. It was sunk by the society of German Engineers, of the Bergverwatung, for the discovery of coal. It was drilled with a hollow diamond pointed drill, and its total depth is 1,390 metres, (4,560 feet). The diameter of the hole at the bottom is 48 mm., (1.689 inches); at the top 280 mm., (10 inches). It required three and one-half years to drill, and the total cost was over 100,000 marks.

THE Tidewater Pipe Company, Limited, has about completed the construction of the Polar Oil Works, covering the only remaining department of petroleum products, in the manufacture of paraffine oils, wax and cylinder stocks, which will be conducted on a large scale. The works are located on the property of the Tidewater Pipe Company, adjacent to the refinery of the Ocean Oil Company, at Bayonne, N. J., with offices in New York at Broadway and Beaver streets. Operations will be commenced in a few days. The officers of the Polar Oil Company are as follows: B. D. Benson, President; R. D. Benson, Vice-President; Samuel Q. Brown, Treasurer; B. F. Warren, Secretary; George A. Keeney, Manager; P. R. Gray, Superintendent of Works.

It is understood that a gas line will be laid across the country from Titusville to Meadville.

J. B. Bradley, of Bolivar, is interested with Messrs. Sherman & Sheldon of Jamestown, and others, under the name of the New York and Pennsylvania Heat and Light Company.

The local papers of Jamestown have of late contained from four to five columns on the subject of natural gas for their town. Three different companies either have or are seeking for privileges of laying pipes through the streets, and at least two of them want exclusive rights.

Seventeen wells have been drilled in the Homewood gas field at a cost of about $70,000, and only four are flowing. Several of these have no pipe connections, and the gas goes to waste. It is thought that the district is exhausted. All of the flowing wells do not produce as much in one day as the famous Westinghouse did in one hour.

The Chautauqua Gas Company has a capital stock of $30,000, and is officered as follows; President, E. W. Ross; Secretary and Treasurer, J. B. Ross, Directors, E. W. Ross, Dan O'Day, J. R. Campbell, W. T. Scheide, Joseph Seep, E. Farman and E. Strong. They have drilled one well at Ross' mill, five miles north of Jamestown, which shows some gas at a depth of 1,000 feet. They have one well drilling and two rigs up.

The Franklin Natural Gas Company have secured the exclusive right of supplying Franklin with natural gas for six months. The officers of the Company are: President, Charles W. Mackey; Vice-President, A. G. Egbert; Treasurer, W. H. Forbes; Secretary, Wm. J. Lamberton; Directors: Charles W. Mackey, A. G. Egbert, J. M. Dickey, B. W. Bredin and W. J. Welsh. The company have made an arrangement with the Oil City Fuel Supply Company for their gas, and will lay a half-mile of six-inch pipe from their gasometer to the Eclipse works, where they connect with the 8-inch line from Oil City. Eight-inch wrought-iron lines will be used for low-pressure, and six, four and two-inch pipes will ramify through the city from these. President Mackey said the ladies of Franklin could begin to fire up their cook-stoves with natural gas before the close of July.

The Oil City Fuel Supply Company of Oil City have sold the controlling interest in their plant and stock to the National Transit Company, at a price which is not made public. The capital stock of the Oil City Fuel Supply Company was $400,000. The purchasers have secured the controlling interest in the stock and an increase is to be voted at the next meeting of the directors. The company had expended for a plant up to the time of the fusion, $350,000. It was found expensive to keep up the supply of gas. Before the vapor was discovered in the deep sand at the Speechley wells, they had already drilled, bought or leased between thirty and forty wells. A 10-inch pipe conducts the gas from the field to Oil City, and the wells are connected with the main line by 5 5-8-inch casing. Besides the Speechley wells the gas from J. B. Smithman's well on the W. L. Karns farm, has been purchased. This farm is located seven and one-half miles southeast of Oil City, and adjoins the Speechley property. The rates of the Oil City company have been low for house purposes, and the company is now and has always been popular with the citizens. Their net rates for a cook-stove for the summer are $2.00, and for a heating-stove $1.00. The Bradford Gas Light and Heating Company charge $5.00 for a cook-stove and $2.60 for a heating-stove. The 8-inch line laid from Oil City to the Eclipse Lubricating Oil Company Limited's Works at Franklin becomes a part of the plant of the new organization, and a line of the same diameter is being laid from Oil City to Titusville. The distribution of natural gas along Oil Creek is likely to revolutionize the fuel department of the refining business. Several of the independent refiners buy natural gas and sell their tar and other products from refining which they formerly used for firing their stills. The old officers of the Oil City Fuel Supply Company were: E. Strong, President; R. W. Porterfield, Treasurer; O. H. Strong, Secretary; Directors: E. Strong, O. H. Strong, R. E. Townsend, R. W. Porterfield and J. W. Rowland. The officers of the company since they consolidated with the National Transit Company remain unchanged except in the Directors, who are as follows: E. Strong, R. E. Townsend, Joseph Seep, W. T. Scheide and Dan O'Day.

In burning the midnight oil to produce novels in Constantinople, General Lew Wallace appears to have discovered that American petroleum, sent to Turkey, is not of the best quality. His warning to the American producers that Russia will sap up the Turkish trade, unless the best American oil is exported is a timely one.—*Tribune*.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., AUGUST, 1885. NO. 7.

THE PIONEER OF THE BALLTOWN FIELD.

UNTIL the advent of Cherry Grove, the Bradford and Allegany fields had been the only regions producing oil of any great importance in the eyes of the dealers in crude petroleum and its products. The discovery of this great white-sand pool is an event in oil circles never to be forgotten. It marks the beginning of a new era in the history of oil, and of new ideas and new methods in the speculative business. The decline of this phenomenal district was the signal for an upward movement in the price of crude certificates which excited the attention of the world. A speculative furore was inaugurated that was wide-reaching and most disastrous in its results.

HON. PETER BERRY.

Scarce had Cherry Grove begun to wane, when Cooper Hill put in a claim for recognition, and while it was yet in the height of its glory, Balltown sent out word that she, too, was preparing to astonish the world with more gushers of the "646" calibre.

Cooper came gradually to the front in the fall of 1882, and early in December Balltown was again heard from, this time speaking with no uncertain sound. Grandin No. 3 was opened up on December 11th; a week later Reno No. 1 convulsed the speculative trade, and the beginning of 1883 saw the oil market ruled by the two new budding white-sand pools of Balltown and Cooper, Cherry Grove having permanently retired to the rear. In August and September, 1882, Cherry Grove was running 24,000 barrels of oil daily. In December Cherry Grove was down to 3,173, while Cooper was running 559, and Balltown had one well making 900 barrels a day. In April, 1883, Cherry Grove had suffered a further decline to 2,954 barrels, while Cooper and Balltown had risen respectively to 3,802 and 840 barrels per diem. In October of the same year Cherry Grove was averaging 1,312, Cooper 3,314, and Balltown 4,298 barrels a day. In the success attendant upon the discovery of a large well, and the excitement accompanying the development of a new field, the struggles and trials that formed a part of the earlier experiments, the "hope deferred that maketh the heart sick," the difficulties in overcoming the glittering ideas of landowners and the fears of timid capitalists are lost sight of and forgotten. With the inception, early history and subsequent rise of the Balltown field the name of the Hon. Peter Berry is inseparably connected. It was he who reasoned out the probable existence of oil in that part of Forest county; it was he who leased the lands and who associated others with him to explore the hidden mysteries of the earth's crust. It was he who worked on when others despaired, and finally conquered, winning an abundance of Dame Fortune's golden smiles, and the proud satisfaction that he had demonstrated to the world that he was right.

The sanguine wild-catter had been at work along the banks of Tionesta Creek previous to the time when Mr. Berry first began to take an interest in the lands adjacent to the primitive clearing that rejoiced in the name of Balltown; but it is to his indefatigable industry and intelligent supervision that the field owes its being and development.

Peter Berry, the pioneer operator of the Balltown field, is a New Yorker by birth, having

first seen the light of day thirty-eight years ago the 15th of April last in the little town of Clarence in Erie county. He is of German extraction, and received his education in the public schools and at the Fredonia Academy in his native State. His youth and early manhood were spent on his father's farm. About the time he came of age he made a trip to Michigan where he contracted the ague. Returning in 1868, he found himself somewhat broken in health and unable to resume his active duties on the farm. He immediately decided upon going to California, for the double purpose of acquiring a fortune and regaining his shattered health. Before he could make the necessary arrangements for his journey he received a letter from his brother David, who was a producer in the oil regions, offering him a good position at fair wages and an opportunity to learn the driller's trade. In August of the same year he came to Pennsylvania and engaged with his brother who had an oil farm on Dennis Run, near Tidioute. Here he learned the trade of a tool-dresser. In 1870 he went to Fagundus where he superintended the drilling of fifty acres belonging to his brother. When the excitement at Fagundus began to die out he decided to put into execution his previous plans for visiting California. A friend of his, Mr. Adnah Neyhart, had gone to San Diego several years before, and had invested in mining property in the Golden State. Mr. Berry arrived in California only to find his friend cold in the embrace of death. Upon him fell the sad duty of retracing his journey, this time with the lifeless body of the man with whom he expected to engage in mining. He never returned to the land of gold, but resumed his trade of a tool-dresser in the land of oil. Constantly earning good wages, and of prudent and economical habits, he soon had saved a little capital to invest for himself. In 1872 he became the purchaser of an old well, which furnished the machinery for his subsequent investigations into the geology of the Balltown field.

While hammering away at refractory steel by the derrick forge, Mr. Berry's thoughts were often far away, mapping out fresh fields to be conquered by the drill. The idea of a productive field about midway between the Bradford region and the Edenburg development in Clarion county, early fixed itself in his mind, and he lost no opportunities of learning the geographical range of the tracts of land that were located to best suit his theory. The lands in the vicinity of the little clearing at Balltown early attracted his attention, and on the 24th of October, 1875, accompanied by Judge Proper, of Tionesta, he made his first visit to the scene of his future trials, struggles and successes. Three wells had been drilled in this vicinity ten years previous to Mr. Berry's visit. None of them could be called positive tests of the character of the field. The drive-pipe still remained in one of them, close to the banks of the Tionesta Creek, and from the top of this he secured a sample of black tarry oil which had been struck at a shallow depth.

Mr. Berry immediately took steps to procure a lease of the property. It was obtained in the same year and in August, 1876, he took possession of it. On September 22 he made the first location for a well. It was on warrant 4823, at the very spot where the Dutch Oil Co.'s No. 1 well is now producing. Finding that Hall & Miller, of Warren, the owners of 3194, the tract adjoining on the north, would not lease him at least one-half of their property, Mr. Berry on the second day of October changed the location further to the southwest to a point on warrant 4821, a few rods east of what is now Balltown's only hotel, and about thirty rods from the bank of the Tionesta. This well is the Balltown Oil Co.'s No. 1, and was the first to discover oil (but in very small quantities) in the vicinity of Balltown. It naturally excited a little attention when it became known that it had showed oil, for at this time there was not a producing well within twenty-five miles of Balltown. The nearest railroad station was Sheffield, twenty miles north and east, and the large area of forest lands that stretch away from southern Warren through Forest and Elk counties, was little tenanted save by the woodsman and the bark-peeler. The machinery for the well and provisions for the men had to be brought many miles through a mountainous country and over the roughest of forest roads.

Mr. Berry's personal narrative of the drilling of the first well is interesting as showing many of the difficulties which have to be contended with in sinking a well in a new and unknown locality. Ordinarily a well of 1,200 feet depth can be sunk in less than three weeks' time, but this initial experiment required over five months before the sand was reached.

Mr. Berry's diary of the progress of Balltown No. 1 reads as follow: "Early in October I let the contract for getting out the timbers and hauling lumber for the rig to H. Wood, and started for Philadelphia to attend the Centen-

nial Exposition. Returning October 20th, I engaged a force of rig-builders and commenced work. The rig-builders finished their work Sunday evening by lamp-light, because of our provender running short, and the men homesick and anxious to get out of the woods. On November 4, I associated myself with the Grandins and W. T. Scheide, and on the 16th moved over from Fagundus with the men and machinery necessary to bounce the drill. We established ourselves in the old house on the creek, and dubbed our resort the Star House. We cased the first time on Thanksgiving Day. Knowing of several old hens that had frozen to death the night before we were very anxious to finish casing in time for dinner. Our house had been out of meat for a week, so there was no question about the appetites we could bring to the dinner table. My driller and I were unavoidably late for the feast, so that the portion left for me was a long, slim blue neck, with enough loose hide over it to make a good-sized stocking. I ate it and pronounced it good, with a mental longing after 'the flesh pots of Egypt.' But on the following Sunday, December 3d, our purveyor, (one of the proprietors of the Star House) brought in a plump, three-pronged buck. Then followed a feast of venison, and there was no need of further longing after the good things of the Egyptians. On the 5th of December we struck the saltwater sand and drilled on, thinking we might possibly exhaust the briny fluid. On the 20th we decided to case deeper, but upon making the attempt to remove the casing found it an impossibility with the means at hand; so we blew off the boiler and all hands went home. On February 6 I came over with more casing and machinery. Not being able to cross the Allegheny river at Fagundus, we had to make a long trip round by way of Tionesta, We worked away faithfully and finally succeeded in removing the casing, and by the 27th of the month we recased at a depth of 337 feet. On February 11 we abandoned the Star House and took up our quarters at the Buckhorn Hotel, where we were right royally entertained by the only ladies in Balltown. The supply of venison was ample, but amidst our high living came misfortune. Our machinery broke down and the old tools gave out, and I was compelled to go to Titusville and purchase a new engine and a new outfit of drilling tools. All these changes took up a great deal of time, so that it was not until the 21st of April that we struck the sand from which flowed a small stream of oil. Sand was struck at this well at a depth of 1,207 feet. It filled up about 100 feet with oil but never made a paying producer. It was afterwards drilled 225 feet deeper and shot several times."

This old well, with Balltown No. 3, still stand as landmarks on the banks of Tionesta Creek. The trifling indications of oil furnished encouragement for many a dark hour in the future, and added strength to Mr. Berry's convictions of the existence of the oil field he was bent upon discovering.

Soon after the completion of Balltown No. 1, arrangements were entered into between Mr. Berry and his partners and Wright & Duhring for warrants 4790 and 4791. Two adjoining warrants were also secured of the Funk heirs, but none of this land has yet been demonstrated to be productive territory. A well on Blood Run, warrant 4791, was started in the summer of 1877. Drilling commenced in August, and the hole was completed in November. It was Mr. Berry's second test and hopelessly dry. It is 1,428 feet deep and the sands were found in regular order. A rig was immediately started on Logan Run, Funk tract, 5,282. It was drilled during the winter of '77–'78 and finished in the spring of 1878. It was likewise a failure. This was 1,600 feet deep and had no sand.

Returning to Mr. Berry's notes: "On September 21, 1877, I moved my Good Man Friday (Major Goodman) into camp on 4791, who has always proved a faithful and reliable servant and interesting companion. While the Funk or Logan Run well was drilling, the Tionesta remained most of the time unfrozen, and we were obliged to canoe our casing across the stream, and thence carry it on our shoulders to the well, a distance of three-quarters of a mile. Our meat running short one day, I took a hindquarter of beef from the creek to our shanty, on my shoulders. It weighed 96 pounds, and was a very satisfactory addition to our depleted larder. After the completion of our third failure we did very little during the remainder of 1878. Most of our time was spent in fishing and fighting the numerous insects that make life a burden along the banks of the Tionesta. We pulled the casing out of the Blood and Logan wells and moved the rig from the Logan to the south side of the Tionesta, upon warrant 4821, about 100 rods south of our first experiment on the same warrant." This fourth test is known as the "Black Oil Well," from its peculiar product, or Balltown Oil Co.'s No. 2, from its location. It had 18 feet of the Balltown sand, but was dry in that formation. Three veins of sand were struck at 180, 265 and 280

feet, respectively, which produced a considerable quantity of black, tarry oil, or liquid asphaltum. When drilling through the black oil sand, the well filled up and flowed. It was afterwards pumped for a short time, but finding no market for the oil it was shut down and abandoned. Its dismantled derrick stands on the south bank of the creek, and the curious visitor may secure a sample of its tarry product from the tank which remains in the potato field below the Balltown House.

The showing of the Black Oil well induced May & Kelley, of Tionesta, to lease tracts 5266 and 5236 of the Cook heirs, joining Berry's lease south and west. They commenced operations and drilled their No. 1 on 5266, late in 1880. This well marks failure No. 5 in the list of the Balltown experiments. Later on it was drilled deeper and produced some oil.

In the spring of 1881 Berry and his partners joined their interests with May & Kelley and secured the entire Cook property, consisting of over four thousand acres of land. In April, 1881, the rig at the Blood Run well was moved across the creek and became a part of Balltown Oil Co.'s No. 3. It is located on tract 4821, just across the road and a few rods north of No. 1. In the latter part of May the contract for drilling this well was let to James Welsh. It struck the sand July 14, '81, at a depth of 1,237 feet. When the drill broke through the shell the hole filled up 1,000 feet in half an hour and made several flows over the derrick, apparently showing for a very large well. It was completed at a total depth of 1,265 feet. It created considerable stir in the oil market and attracted a great deal of attention. When tubed it made five barrels in twelve hours and proved very disappointing to its owners. The tubing of this well was pulled three or four months ago, but it makes occasional small flows through the casing.

Upon the completion of this well another was immediately located. It is known as the Balltown Oil Co.'s No. 4, or the Blacksmith Run well. It was located on warrant 4821, about a half-mile northwest of No. 3, and completed late in December, 1881. It filled up a little with oil, but the showing was so small that the casing was pulled and the hole plugged and abandoned. The year 1881 closes with an attempt to revive Cook No. 1, on warrant 5266. In December, Berry and Benjamin May made the location for Cook No. 2 on the same warrant, fifty-six rods east of No. 1. It was finished in the Cooper sand April 6, 1882, and was hopelessly dry.

A reference to the map accompanying this article will make plain the mistakes that were made in locating these experimental wells. Nine dry holes were drilled before the productive territory of the Balltown field was struck. They were all too close to the creek, and on lines parallel to the eastern edge of the pool. After the failure of Balltown No. 4, Mr. Berry began to insist that a trial ought to be made farther to the north. His favorite spot was up the Porcupine Run, 100 rods from the point where it joins the Tionesta. Here, huge masses of conglomerate rocks reminded him strongly of the territory in the Clarendon field. Had his advice been taken at this period he and his partners would have gained as strong a footing in the northern end of the field as they now hold in the central and southern portion.

In April, 1882, the death of Mr. H. H. May, of Tionesta, occurred. He was one of the firm of May & Grandin, and it was his hands that set the stake where the famous Grandin or Cook No. 3 was struck. It was located on Brush Camp Run, 140 rods south of the north line of warrant 5236, and 225 rods northwest of Cook No. 1, on 5266. This well was commenced in May, and the top of the sand reached on the 19th of August. On the 24th, Mr. James Welsh, in the presence of Mr. E. B. Grandin and Mr. Berry, gave the rock a few gentle taps with his drill, which proved the forerunner of mischief and furnished the key to the Balltown white sand pool. Nothing farther was done at this well, except to erect tankage, etc., until December 11, when it was drilled deeper and started off at 1100 barrels. The average for the 20 days ending with the 24th of September was 47 barrels a day, and it produced above 40 barrels daily for the interval between August 24 and December 11.

When first struck this initial gusher made a fine showing, and when the cavalcade of scouts from Garfield arrived at the well, late in the night of August 24, it was making flows over the derrick at intervals of two hours. The midnight ride over the rocky road and down the precipitous hill, at Minister Run will long be remembered by the fieldmen, who started out from Garfield upon learning that one of Berry & Grandin's men had been to town and purchased an oil-saver. It was one of the blackest nights imaginable, and the road the entire distance is shaded upon both sides by a thick forest. They found Mr. Berry and Mr. Grandin at the

well, who were shortly afterwards joined by reinforcements in the shape of Major Goodman, with a rifle on his shoulder, and sixty rounds of ammunition, and a huge Mexican dirk-knife buckled about his waist. A sharp dispute followed, which was ended by the scouts keeping on the outer side of a huge tree that was felled across the woods road that led up to the well from the main road down the Tionesta, while Mr. Berry and his band kept faithful watch within.

Telegrams that were sent from Garfield the following day reported the well all the way from 40 to 200 barrels a day; but the effect on the market at this time was very slight. There were other things, apparently, of greater importance than a frontier well in a district that was already known as the home of one or two insignificant wells which had been used to create a scare among the longs in the days gone by.

Mr. Berry was kept very busy answering questions and dodging the newspaper correspondents and scouts, who were anxious to learn the past and guess the future of the new well on Brush Camp Run. He was "interviewed" one day by Mr. P. C. Boyle, and the non-committal character of Mr. Berry's answers are thus humorously hit off by Boyle: "Mr. Berry was seen. Mr. Berry is part owner in this well and lease. He is charge d'affaires and general factotem. He says the well, as near as he can remember, 'and a man,' he added, with a deprecatory allusion to a defective memory, 'can't mind everything, is near the east line of the warrant, and that is as near as I can remember. May be it is on the east line.' He had maps and those things, but they were at home in his other pants. About everything he knew about Balltown was swallowed up in the awful depths of those 'other pants,' inconveniently absent. The points of the compass, table of distances, production of old wells, everything in fact which might aid the public in the formation of intelligent estimates of the new mystery from its surroundings, were secrets safe in the custody his 'old pants' at home. Superintendent of the wells, he had forgotten their depths. A resident for months at a time, for years past, of Balltown, he did not know whether the 'mystery' was east of No. 1 or No. 1 east of the mystery. Present at the well when it was struck, he was at a loss for the exact date of the occurrence. But all of these seemingly crooked things he could apparently make straight if he had those truant pantaloons. The well was struck on Thursday afternoon. No one but those interested were present, yet word was received outside the same day. Berry admitted that it was a strange and unaccountable circumstance, and in a pre-occupied manner fell to accusing those miserable 'other pants.' If he had them here he might be able to tell something about it."

After Cook No. 3 had shown unmistakable signs to the owners of being a valuable well, the Balltown Company once more turned its attention to the lands on 4821. The result was Balltown Oil Company's No. 5, sixty rods due north of Balltown No. 3. It was completed late in the fall of 1882, and contained neither sand nor oil. This was the most discouraging time that Mr. Berry had yet experienced. In vain he had urged his partners to go farther to the north; they were determined upon finding a producing well in the neighborhood of No. 3. The results were most disastrous. Mr. Berry had exhausted all his capital, and nothing remained but his interests in a large tract of apparently worthless lands and in a producing well that as yet had no line through which its product might be piped to market. His own brother deserted him in this time of dire necessity, and gave up all faith in his projects.

The partners met at Tionesta to settle for the last failure, and upon paying his portion Mr. Berry's net assets were reduced to forty cents. This was all that remained to him. Giving up half of it for a small lunch, he turned his face towards Fagundus and started for home on foot. The next day he was again at work, having obtained an unimportant job that would at least secure him an abundant supply of the necessaries of life.

From the failure at No. 5 originated the Dutch Oil Company, a combination among a few members of the Balltown Oil Co. and a number of Pittsburghers of German extraction, who were determined to follow Mr. Berry's plans for another test to the northward. The site selected was near the mouth of Porcupine Run, on the northwestern part of warrant 4823. Mr. Berry insisted on a location up the run still farther to the north than this; but he was overruled by his company.

At the time Balltown No. 5 was drilling, Mr. Berry with O. W. Beatty, of Warren, secured an option for the purchase of warrant 3194 at $45,000. When the well proved a failure, they gave up the option. Shortly afterwards, while the Dutch Company's experiment was under way, the owners of the tract offered it to Berry and Beatty for $20,000. When the Dutch Oil

Co.'s No. 1 struck the sand on St. Valentine's Day, 1883, Mr. Berry was in Buffalo, having strictly enjoined Mr. Beatty to look after the Dutch well. The result of this venture was to establish the existence of a pool of oil in this vicinity, and demonstrated beyond a doubt the value of tract 3194 for oil-producing purposes. Mr. Berry was detained at Buffalo by the railroads to the south being flooded, and Mr. Beatty let the opportunity of securing the lands go by. It was afterwards purchased by M. Murphy and others for $25,000. A few weeks later a sixth interest in the tract changed hands at $35,000. This warrant has since produced 500,000 barrels of oil.

The Dutch Oil Co.'s No 1 well, although an insignificant affair, as far as its yield of crude is concerned, was of vast importance to the Balltown Oil Company and the Balltown field. After Cook No. 3, it was the first glimpse of light after years of struggling in the dark. Nine dry holes had been sunk by Mr. Berry and his company, and over $40,000 had been expended without any returns. Now the direction which the budding field was to take was plain, and the way to prosperity was assured, and before many months had passed the crude wealth was rolling into their possession. Mr. Berry viewed with satisfaction the end for which he had toiled and struggled, and the substantial rewards that he was about to receive were pleasing to ponder upon, when thoughts of his previous failures and disappointments crowded into his mind. He had finally conquered, and the Balltown field was the crowning evidence of his good judgment, perseverance and tenacity of purpose.

Mr. Berry's time has been fully occupied since 1883 with the details of the development of his fine property on the Tionesta. He has moved his family to Balltown, and is recognized as one of the leading citizens of his town and county. He has in innumerable ways directly and indirectly promoted the interests of Forest county, and in the fall of 1884 he was elected to the Legislature by the largest majority ever received by a candidate in his county. Large-hearted, generous to a fault, he has the respect and esteem of all who enjoy his acquaintance. In person he is a magnificent specimen of the physical man, standing over six feet in height, with the shoulders and chest of a Hercules. Seated upon his handsome bay horse, he is a conspicuous figure as he dashes over the roads and by-paths of his broad leases.

In the Legislature Mr. Berry's record is that of an honest man who has the best interests of his constituents at heart. He was a warm supporter of the anti-discrimination bill, and introduced a bill to authorize the levy and collection of taxes for road and school purposes from telegraph and railroad companies within the various counties of the State.

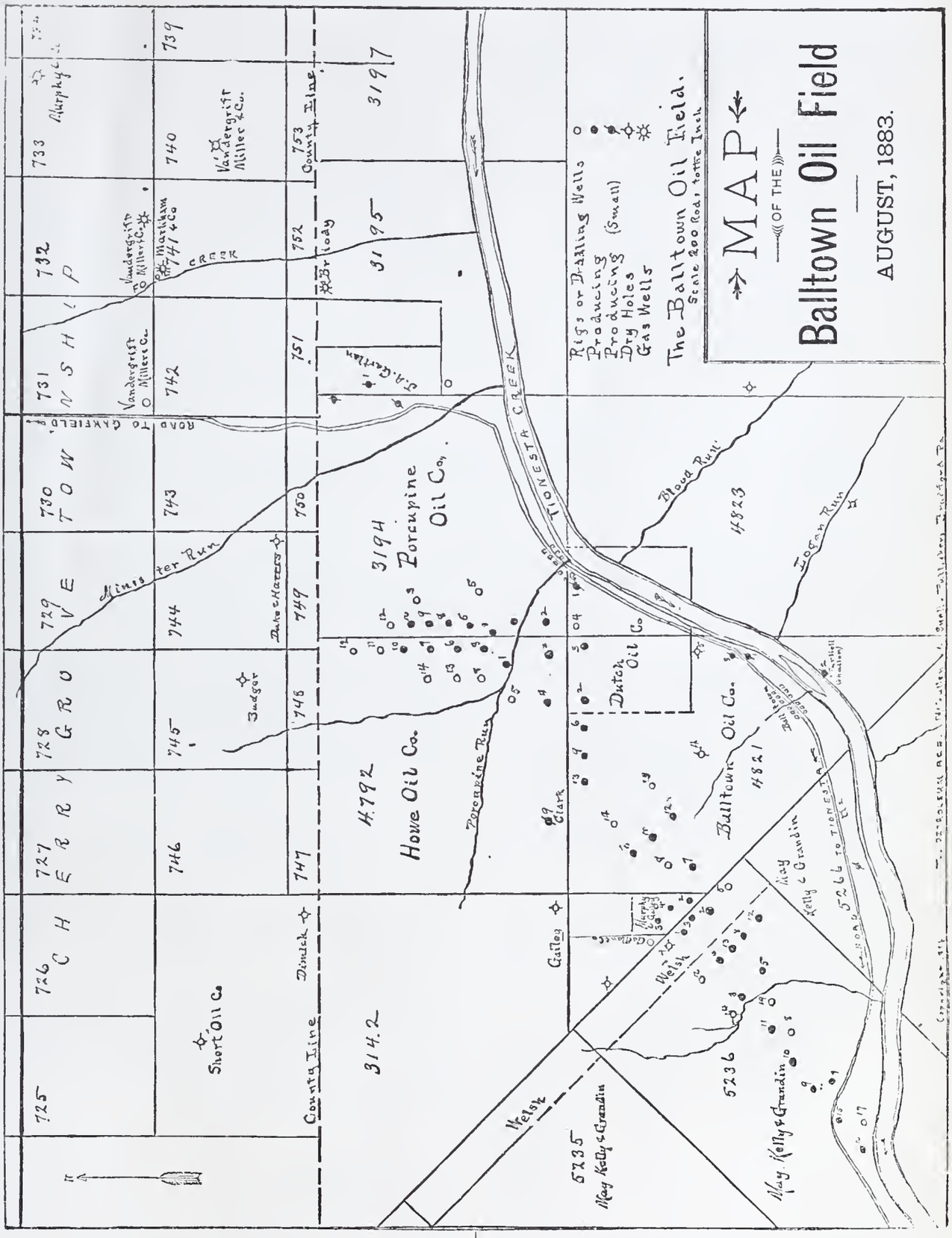
Mr. Berry is still busy theorizing on the existence of new pools. He recognizes the fact that it is vastly more difficult, at the present time, to gain control of a large tract of wild land for oil purposes within the recognized limits of the petroleum fields, than it was ten years ago. When the opportunity is ripe, he will again be heard from at the front, directing the sinking of more wells of an experimental nature.

THE BALLTOWN OIL FIELD.

The Balltown producing field covers an area of two thousand acres. Beginning on the northeast, with lot 751, in Cherry Grove township, of Warren county, it stretches away about five miles to the sothwest, occupying parts of tracts 3195, 3194, 4792, 4821, 3133, 5236 and 5215 of Howe and Kingsley townships in Forest county.

The accompanying map does not show the extension on warrant 5215, which joins 5236 on the southwest. Welsh, Goff & Co. are at work at the present time on 5214, with a veiw of extending the field still farther to the southwest. A number of wells have lately been drilled on warrant 3195, and prospectors are figuring on a new development to the northeast of the older pool, which shall extend southwesterly through 4823, and to the northeast, through the corner of 3197, parallel with the Cooper development and eastward of the dry holes and gas wells on lots 739, 740, 732 and 733.

On the first day of August, 1885, the producing wells in the field numbered 122, out of a total of 154 wells drilled. The production of the field, as represented by the amount of oil run into the lines, up to the same date, is 1,781,185 barrels. The 122 wells combined were doing less oil on the 1st of August, 1885, than a single well (the Cook or Grandin No. 3) was producing on the last of December, 1882.



Statistics of Balltown Field.

Date. 1883.	No. Wells.	Barrels.	Rigs.	Drilling.
April 28	--	983	10	10
May 8	--	970	--	--
May 11	11	1,406	9	8
May 19	13	1,146	7	8
May 25	14	1,065	7	12
June 1	17	1,689	7	8
June 9	17	1,800	5	9
June 15	18	1,851	5	10
June 22	20	2,925	10	8
June 29	22	2,499	11	7
July 6	23	2,131	11	9
July 14	24	2,063	7	13
July 21	25	2,223	8	13
July 27	25	1,983	9	14
August 4	31	3,285	13	8
August 11	34	3,586	12	7
August 17	35	4,811	11	10
August 25	36	3,328	11	12
September 1	37	3,095	8	16
September 8	39	3,287	11	15
September 15	41	4,155	11	15
September 22	45	5,086	8	12
September 29	48	4,569	9	12
October 6	49	6,458	12	10
October 13	51	4,851	11	9
November 10	59	3,450	4	3
November 29	63	5,007	6	4
December 14	63	3,985	7	4
December 27	66	3,946	3	6
1884.				
Jan. 7	67	3,232	2	6
Jan. 25	69	3,367	2	5
February 8	71	3,894	2	4
March 7	73	3,548	4	3

The list of producing wells and their owners on the first of August is as follows:

Lot or tract.	Owner.	No. Wells drilled.	No. Producing Aug. 1, 1885.
751 & 3194	Porcupine Oil Co	34	31
4823	Dutch Oil Co	1	0
4821	"	3	3
4821	Balltown Oil Co	23	17
4792	Howe Oil Co	16	14
3133	Murphy & Gailey	5	4
5236	James Welsh	6	5
5236–5215–5266	May, Kelley & Co	34	29
3195	Proper Reserve Oil Co	7	7
3195	Welsh, Agnew & Proper	1	1
3195	Noah Clark	9	9
3195	M. K. McMcMullen	2	2
	Various Wild-cats	13	
		154	122

The Balltown Oil Company was organized by Peter Berry, who secured his first leases from the Pittsburgh & Forest County Lumber Company, in his own name. Afterwards there associated with him J. L. and E. B. Grandin and W. T. Scheide. Later on J. M. Clapp was admitsed into the company, purchasing a fifth interest. The company at present consists of Peter and David Berry, J. L. & E. B. Grandin, W. T. Scheide and J. M. Clapp. The leases of the Cook property, operated under the name of May, Kelley & Co., are controlled by A. B. Kelley and the heirs of Huntington May, who own a half interest, and the Balltown Oil Co., who with W. W. Hague own the other half. The Howe Oil Co. is substantially the same as the Balltown Oil Co., with the addition of D W. Clark, who gained an interest through a difficulty in the title to 4792.

The value of the oil produced by the Balltown field, estimated on the basis of the average price of crude for the several years, is shown in the following:

Year.	Production.	Average price per barrel.	Value.
1882	2,700	78¾	$ 2,126.25
1883	776,244	105¾	820,878,03
1884	807,506	83¾	676,286.27
1885 (7 mos.)	194,735	80⅛	156,031.41
Total	1,781,185		$1,655,321.96

Averaging the cost of the wells drilled in the field proper and the surrounding lands at $3,000 each, the total expense of 154 wells is placed at $462,000, leaving a net profit for the field at the present time of $1,193,321.96.

The Balltown field, controlled by a few large and strong firms, has not been so thickly crowded with wells as the other white-sand pools. The number of wells drilled is smaller as compared with the area of the pool, and the field bids fair to sustain its present average of 1,000 barrels a day for some time to come.

An English View of the Scout.

Among the strange matters developed in the unusual order of things pertaining to the oil wells of Pennsylvania is a class of adventurers termed oil scouts. When any Artesian wells are sunk in a new district, the information respecting their success and delivery is of great value to prospectors in the vicinity, and, as a consequencc, new wells are frequently surrounded by a timber stockade and patrolled by armed men, who treat with severity any trespassers. A man once penetrated through the cordon of guards and hid under the derrick floor at a well, and succeeded in taking his departure after staying there two days waiting to learn whether the well was to be successful. For this information his share amounted to £10,000 in cash, and an interest worth £30,000 in a well which was at once driven in that vicinity. Another scout learned the capacity of a new well by noting the depth of a tank at two different times, and thus obtained the data necessary to gauge its flow. The whole business is typical of what always occurs in sparsely-settled mining regions where there is but little law and order to control the diverse clements of men in their struggle after sudden wealth.—*Oil and Colorman's Journal.*

THE National Transit Company has just completed their three-inch line from the Macksburg field to Parkersburg, a distance of 29 miles. The large pump used is of the improved Duplex-Blake patent, with a capacity for pumping 3,000 barrels daily.

THE National Tube Works of McKeesport have consigned to Jamestown, N. Y., over 1,000 tons of their piping, to be used by several contractors at that place. They follow it immediately with another shipment of 200 tons to Wellsville. All the Pittsburgh manufacturers report that business in this line is improving greatly.

WHILE Russian petroleum is crowding the American product out of some European markets, it is pleasant to notice that shipments to the far East from this country are on the increase. Two ships are to take 190,000 cases of oil from Philadelphia this week, bound for Japan. This will be probably the largest single order ever filled for that country.—*N. Y. Tribune.*

AN effort will be made to create a scare on the Mahon well, two and one-half miles southeast of the A. P. Company's well on the Rankin farm. This well was drilled by Hart & Conkle, and thoroughly tested at the time. It was cleaned out recently and pumped for several days. They are now erecting a 600-barrel tank. Hart & Conkle found 23 feet of brokcn sand.

EDWARD and Perry Andrews, well-known oil-region contractors, are drilling an artesian well for water in the city of Atlanta, Georgia. They have drilled a hole through 1,600 feet of granite rock and are still drilling. Water has been found, but they are looking for it in quantities sufficiently large for the well to flow. Messrs Andrews have several wells to drill in Alabama.

THE Mt. Nebo well, from which nothing has been heard for the past six weeks, is filled up with 1,700 feet of salt water. The well has been put into the hands of experts, and the tubing and casing will be removed. The scouts from Macksburg, West Virginia, and the Oil Exchanges, who lingered around the mystery for the first few weeks, have left in disgust. They are satisfied the prospects for a spouter are not likely to seriously affect the market at any time.

THE RUSSIAN PETROLEUM INDUSTRY.

BY BOVERTON REDWOOD, F.I.C., F.C.S.

[Continued from Page 1004.]

THE peninsula of the Apsheron projects in an easterly direction from the mainland of Trans-Caucasia, and upon the southern shore of the bay thus formed lies the town of Baku. The northern side of this peninsula is tolerably fertile; but the neighborhood of Baku presents the appearance of a desert of sand and rock, here and there stained black by the exudation of petroleum, and with occasional deposits of salt glittering in the sun. The only vegetation which thrives in this district is the prickly camel-thorn; and it may be imagined that a more dreary prospect is nowhere presented to the eye. The oriental-looking Tartar villages, with solid, flat-roofed stone buildings, surmounted by the characteristic domed chimneys, form inconspicuous features in the landscape, hardly distinguishable at a distance from the surrounding desert; and at intervals along the so-called roads water wells of primitive form are met with. Strings of camels, bearing skins of petroleum to Daghestan villages; tall sheep-skin-hatted Tartars riding on small donkeys, and gaudily-painted Persian "arabs," or two-wheeled carts, to which I must again refer, add to the thoroughly Eastern character of the scene.

The contrast between this silent desert and the bustle and confusion of the oil wells is most marked. Within the area of the present producing territory derricks are crowded together, a network of pipes like so many gigantic serpents covers the oil-sodden ground, miniature mountains of sand thrown up by the spouting wells abound, and all the remaining space is occupied by lakes of crude oil, as well as storage tanks for its reception before it is pumped to the refineries.

I had seen wells in America that were considered remarkable in regard to the quantity of oil yielded, and had read accounts of the productiveness of the Russian wells, but I was, I must confess, wholly unprepared for the evidence of abundant supply afforded by the flowing wells or fountains, as they are locally termed, which have been struck in the Balakhani district. These wells are invariably capped to prevent waste and damage to neighboring wells, as I shall presently explain. One of the fountains was opened in my presence, and immediately with a roar a mighty column of oil more than a foot in diameter shot up to a height exceeding 100 feet, and continued to flow without diminution of violence as long as the valve remained open, forming a lake of oil to leeward of the well. The derrick over the well was 70 feet in height, and the oil column occasionally rose to at least double this height, while stones were distinctly seen to be projected to an even greater altitude. An American who was with me said he could compare the spectacle with nothing but the falls of Niagara, and there was certainly the same awe-inspiring effect in watching nature disgorging her treasure that one experiences when standing on the brink of the stupendous falls. The well I saw spouting (Nobel's No. 18) yields at the rate of 1,125,000 gallons per 24 hours whenever opened, and is by no means the most productive that has been struck, the Droojba well and Nobel's No. 9 well having for a time yielded about double that quantity per 24 hours. In the case of these two wells the pressure of the oil amounted to about 200 lbs. on the square inch, and the oil column was from 200 to 300 feet in height. In the instance of Nobel's No. 9 well no great proportion of the oil was lost before the well was capped, but the Droojba fountain was for no less than four months quite uncontrollable, and it is estimated that from 68,000,000 to 136,000,000 gallons were ejected during this period. This quantity of American crude oil was worth in the United States at the time from £700,000 to £1,400,000 sterling, but in consequence of the impossibility of storing it, the oil spouted by the Droojba well was practically unsaleable. Not only was the greater part of the oil lost, but great damage was done to surrounding well property, engine houses being buried by the sand thrown up. It may afford a means of realizing the enormous productiveness of these wells, if I state that the well known as Armstrong No 2 struck last autumn in Butler county, Pennsylvania, flowed for a time at the rate of 260,000 gallons per 24 hours, and is considered one of the most prolific wells ever known in the oil regions of the United States. The yield of this well, it will be noted, is only about one-eighth of that of the Droojba well or of Nobel's No. 9 well.

The first step in the operation of boring a well is the erection of a derrick. I have on the lecture table a model made for me in the United States which illustrates the method of construction, derricks of the same form being used in Russia. There are two methods of boring in

use in the Caucasus, termed respectively the rod system and the rope system, the latter being the more expeditious, and admitting of from seven feet to eight feet being bored per working day of ten hours. In the rod system of boring the bit is screwed into an iron rod which may be as much as 40 feet in length, and a vertical movement is imparted to the apparatus by the walking-beam already alluded to. As the hole increases in depth, additional lengths of iron rod are added, in the same way that the chimney sweeper manipulates his machine. At frequent intervals, however, it becomes necessary to remove the detritus from the bore, and when the well has been sunk to a considerable depth (say 200 or 300 feet), the time occupied in unscrewing each rod as the drill is drawn up, and re-connecting the rods after removing the detritus, is considerable. In the rope system, the set of drilling tools, consisting of temper-screw, rope-socket, auger-stem, the jars and bit, are suspended by a stout cable of manilla. The aggregate length of this set of tools is over 50 feet, and the weight about a ton. The bits used in America are about 5 1-2 inches in diameter, and are faced with about 40 pounds of steel, but in Baku the wells are of greater diameter and the bits correspondingly larger. As the boring of the well progresses it is cased with iron tubing, which is lowered in successive lengths. Tubing as much as 16 1-2 inches in diameter is occasionally used in Russia, but the usual size with which the casing of the well is commenced is 15 inches in diameter, the tubing being added in successive lengths of seven feet. As the depth of the well increases and the larger tubing can no longer be driven down, smaller tubing is used, and the lower lengths are sometimes less than eight inches in diameter. I have already stated that from time to time the detritus has to be removed. For this purpose the drilling tools are drawn up through the medium of the strong windlass, technically known as the bull-wheel, fixed to the side of the derrick, and actuated by the same steam engine that moves the walking-beam, and then a few bucketsful of water having been poured into the well, the "sand-pump" is lowered by means of a small windlass. This sand-pump consists of a tube or cylinder of metal some six feet or more in length, having at the lower end a valve opening inwards. The detritus having entered the tube through the opening of the valve, the tube is withdrawn with its contents, and this operation is repeated as many times as are necessary. The cost of sinking a well is about £2,000 more or less according to circumstances, the irregular character of the strata rendering the operation more difficult and costly than it is in the United States. As soon as the oil is struck, the great anxiety is to affix a cap to the upper end of the well tubing before the flow becomes unmanageable. A difficulty arises from the fact that the oil contains a great deal of sand, the violent flow of this sand-laden oil quickly cutting through a considerable thickness of iron. I saw in Balakhani several caps which had thus been rendered useless. The caps used are provided with a valve so that the flow can be controlled and regulated. In many cases it is found necessary to artificially strengthen the ground surrounding the well, in order to prevent the oil from making its way to the surface outside the tube when the flow is checked, and in the case of some wells the closing of the valve is attended with the risk of the cap being blown off by the immense pressure of the oil. It has more than once happened that on the oil being struck the outflow has taken place with such violence that the drilling tools weighing, as I have said, a ton, have been projected from the bore. The employment of nitro-glycerine for increasing the production of a well, so common in the United States, has not, I believe, hitherto been resorted to in the Caucasus.

It is stated that there are over 400 wells in the neighborhood of Baku (as compared with more than 20,000 in the oil fields of the United States), but of these I was informed that only about 100 were at the time of my visit producing. Rather more than half the producing wells are owned by the firm of Nobel Brothers. Of the 100 wells only some 20 are flowing wells, the remainder requiring to be pumped, but from what I have stated as to the productiveness of the fountains, it will readily be believed that if the oil were allowed to flow, these 20 wells would for a time yield far more than sufficient raw material for the manufacture of the 1,500,000 gallons of petroleum burning oil which the world is now daily consuming.

The oil containing too much sand to admit of ordinary pumping, it is lifted to the surface by a contrivance similar to that which I have described as being employed for removing the detritus during the sinking of the well. The valve tube thus used holds abont 45 gallons, and it is stated that from 18,000 to 22,000 gallons can thus be raised from each well per working day of 10 hours.

(*To be Continued.*)

THE PETROLEUM AGE,

DEVOTED TO THE

INTERESTS OF THE PETROLEUM TRADE.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR,
BRADFORD, PA.

W. C. ARMOR, Manager.

J. C McMULLEN. A. L. SNELL

Subscription Price (Postpaid).....$3.00 per Year, in Advance
Subscription Price (Postpaid).....$1.75 per 6 months in Advance
Foreign Subscription.....$3.50 per Year in Advance
Single Numbers.....30 Cents
The Bradford office of the AGE is in the Producers' Exchange Building.

Dr. Benninghoff's Patent Process of Smelting Iron, Steel and Glass With Natural Gas.

There was a curious and an interested crowd gathered about Wilson & Black's factory in Kendall, on August 11th, to observe the workmen successfully weld iron and steel by means of Dr. Benninghoff's oxygenized gas process. Manager R. G. Bailey had come down from Bradford with Mr. John H. Taylor, superintendent of Oliver Bros. & Phillips' Iron Works at Beaver Falls, and Mr. E. F. Seamans, of Parks Bros.' Black Diamond Steel Works, of Pittsburgh, to witness the process. These two experts in all matters pertaining to the manufacture of iron, as they saw iron and steel quickly raised to a white heat in a well-controlled flame which came from mixing natural gas with air, and easily and thoroughly welded, were enthusiastic over the results obtained by the simple contrivance of an oil-region inventor. Mr. Taylor had worked months to gain the same end, but had failed through the melting of the pipes which conducted the air and gas to the forge. They saw and admitted that the Doctor's patent was likely to revolutionize the smelting of iron, steel and glass in the United States.

The forge is built of brick, about 33 inches square at the base and 30 inches in height. The fire-pot is located at the central point and near the top of the forge. Inch air-pipes coming from the fan or blower are connected to three-quarter inch gas pipes just outside and on opposite sides of the forge. At the T the gas and air are mixed, and then pass into the forge through the same pipe. The two pipes from opposite sides are in a horizontal line with one another, and have their open ends in the forge directly opposite and sixteen inches apart. When they are lighted the two flames strike against each other. An air pipe in a vertical position from the bottom of the forge has its open end about eighteen inches below the horizontal line between the pipes containing gas and air. The intense heat is obtained near the intersection point of the air current and the mixed ones of air and gas. The top of the forge is nearly closed with the exception of an aperature large enough to admit the piece of iron or steel to be welded. When the two gas jets are first lighted the flame rises to a height proportionate to the flow of gas. But when the air is forced into the air-pipes and mingles with the gas, the flame changes from a yellow to a lambent blue color as it settles into the fire-box in the forge. Why the jet of flame sinks instead of rises is something as yet unexplained by those who have brought about the valuable results. Dr. Benninghoff describes his invention as a process in which gas is mixed with air under pressure, so as to make it in the highest degree combustible. He also says the oxygen in the air being the important factor of combustion, all that is necessary is to supply a sufficient amount of air to get the required amount of oxygen to perfectly consume the gas. Gas burning in an ordinary jet for the purpose of light gives that light because it is not all consumed. Where combustion is perfect there is no blaze or flame to be seen. In order that the air supply may not interfere with the heat supply, the gas is mingled with the air before it is introduced into the fire-box. In arranging a forge it may also be necessary to add extra air-blasts to the fire for the purpose of locating the heating-place, and for supplying oxygen in case there be any non-oxygenized gas present. Mr. C. F. Jewell, who is interested with Dr. Benninghoff, worked out the mechanical details of the patent.

Black & Wilson are now successfully using Dr. Benninghoff's gas flame in the manufacture of their patent steel sucker-rods. R. H. Black, formerly connected with the sucker-rod establishment of the Oil Well Supply Co. is the patentee of this steel twisted sucker-rod. It is patented on the form of metal and the manner of making the weld.

I shaped steel bars are obtained of the great steel houses in Pittsburgh. The stub joint is split in two equal parts and slipped or driven over the end of the I bars and securely welded, the flanges of the bar strengthening the weld. Each bar after having the joints welded on it is fastened at the two ends—one end being stationary and the other attached to the shaft of a wheel which revolves and imparts a twist to it. A rod 28 feet in length is given 20 revolutions, and from the centre of one twist to another the distance is 8 1-4 inches. These steel rods are made of the best quality of steel and warranted not to break. They weigh two onnces to the foot less than wooden rods, and will remove all paraffine from tubing and keep it clean all the time. It takes less steam to pump a well when the steel rods are used. There is little or no friction between the steel rods and the tubing, and the owners claim they will last more than the life-time of any well yet discovered.

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE.	July 25, 1885. Barrels.	June 27, 1885. Barrels.
London	180,621	137,281
Trieste	34,151	------
Seven Continental Ports	1,415,486	1,309,299
Total Stocks afloat and ashore	1,630,258	1,446,580
Increase in stocks since June 27	183,678	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1885. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS JULY 25, 1885.

PORTS.	Stocks week ending July 25.		Stocks afloat week ending July 25.		Loading. Week ending July 25.		Grand total stocks afloat and loading.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	236,513	107,981	16,557	20,840	2,500	51,800	255,570	180,621	21,217	36 626	22,409	15,841
Trieste	38,289	11,815	29,374	17,336	7,500	5,000	75,168	34,151	------	------	1,565	1,025
Bremen	922,580	473,088	7,711	13,397	------	23,(00	930,291	509,485	128,702	50 706	27,502	25,688
Hamburg	274.529	205,854	30,948	84,749	77,000	42,500	382,477	333,103	137,719	66,614	31,904	41,602
Antwerp	179,301	104,546	22,738	14,182	74,700	52,500	276,739	171,228	44,708	23,991	30,520	26,405
Rotterdam	70,934	86,137	11,926	31,3<6	4,000	------	86,860	117,523	10,6<6	31.310	7,024	14,200
Amsterdam	55,882	46,304	1,238	19,175	13,700	8,000	70,820	73,479	23,968	26,504	9,019	7,571
Stettin	59,996	93,927	40,273	77,673	12,900	------	113,169	171,600	27,231	48,874	4,882	13,359
Danzig	12,122	23,392	8,564	11,676	------	4,000	20,686	39,068	4,937	15 926	910	1,270
Total	1,575,244	1,033,248	123,398	252,238	182,30·	130,000	1,881,042	1,415,486	377,951	263,955	111,761	130,095

	1882.	1883.	1884.	1885.
Total stocks Continental Ports	1,553,450	1,791,069	1,575,344	1,033,248
Total afloat, " "	2<1,640	143,919	123,398	252,238
Total loading	250,500	151,800	182,300	130.000
Total	2,085,590	2,086,788	1,881 042	1,415,486
Afloat and loading for direct Continental Ports	------	------	20,000	17,700
" " " Baltic Sea, exclusive Stett n and Danzig	29,600	20,200	7,900	36,300
" " " Total Continental Ports	2,115,190	2,106,988	1,908,942	1,469,486
" " " Total London	388,478	490,576	255,570	180,621
" " " English harbors, exclusive London	34,800	115,700	53,000	50,800
Grand total	2,538,468	2,713,264	2,217,512	1,700,907

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, JUNE, 1885.

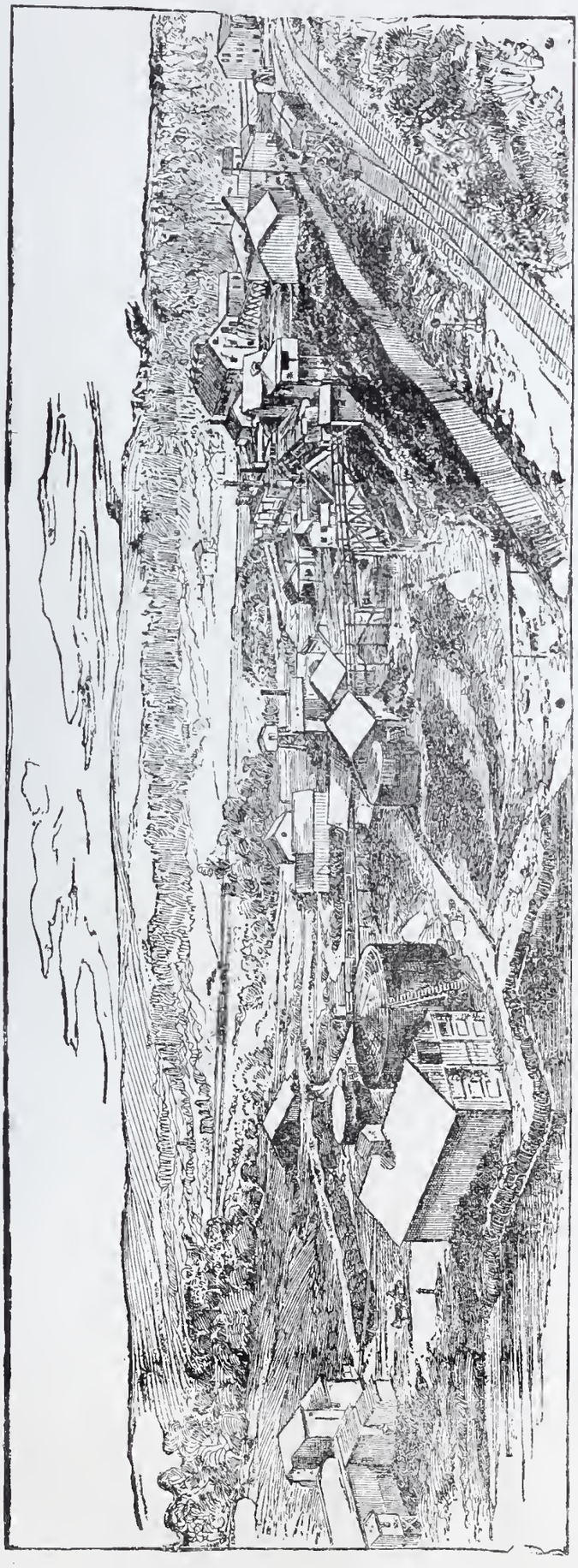
BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., JULY 27, 1885.

CUSTOMS DISTRICTS.	MINER'L, CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.
Boston and Charlestown, Mass	------	------	------	------	1,145,429	104,913	19,049	8,936	------	------	1,164,478	113,849
New York, N. Y	2,402,543	177,276	818,807	72,477	30,987,667	2,731,876	1,045,463	191,272	288,288	18,354	35,542,768	3,191,255
Philadelphia, Pa	3,033,199	211,298	204,852	14,339	12,274,779	1,005,557	33,496	5.5 9	341,082	17,767	15,887,408	1,254,500
Baltimore, Md	------	------	------	------	981,243	75,284	1,462	1,097	------	------	982,705	76,381
San Francisco, Cal	------	------	7,800	1,155	77,990	17,792	449	348	------	------	86,239	19,295
All other districts	10	7	1,446	243	71,863	9,996	42,413	9,286	546	69	116,278	19,601
Total for June, 1885	5,435,752	388,581	1,032,905	88,214	45,538,971	3,945,418	1,142,332	216,478	629,916	36,190	53,779,876	4,674,881
Total for June, 1884	6,025,359	458,182	1,543,414	132,972	43,861,949	3,945,114	792,573	175,808	677,292	46,167	52,900,587	4,758,213
Total for 12 months ended June 30, 1885	81,037,992	5,903,833	15,822,853	1,272,290	458,243,012	40,074,827	13,002,483	2,632,883	6,561,660	374,114	574,668,000	50,257,947
Total for 12 months ended June 30, 1884	67,186 329	5,302,974	15,045,411	1,072,651	415,615,693	38 195,349	1·,515.535	2,179,595	5,297,124	352 679	513,660,092	47,103,248

CRUDE QUOTATIONS FOR JULY, 1885.

Day of Month and week.		BRADFORD.				OIL CITY.				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
W	1	92	92⅝	91⅜	91⅞	92½	92⅞	91⅞	91⅞	92	92⅞	91⅜	92	92¾	93	91⅜	91⅞
T	2	91⅞	92	89⅞	90¾	92	92	89⅞	91	91⅞	91⅞	89⅞	90⅞	91¾	91¾	90	90¾
F	3	91⅜	97⅝	91⅜	96½	91	97½	91	96⅜	91	97¾	91	96⅜	91⅜	97½	91⅜	96½
S	4 Holiday																
M	6	99	102⅞	97⅜	97⅞	95½	102⅞	97⅝	98⅛	99	103	97¾	98½	98¾	102⅞	97⅝	98
T	7	97⅞	98⅞	95¾	98⅛	98½	98½	96	98	98	99	95¼	97¾	98⅝	99	95¾	98
W	8	98⅛	98⅜	96⅜	96⅝	98	98⅜	96½	96½	98¼	98½	96¾	96¾	98¼	98⅜	96¾	96⅝
T	9	96	96	95¼	95½	95½	96⅛	95¼	95½	96⅛	96⅛	95	95⅝	96	96	95¼	95½
F	10	95¾	97¾	95⅝	97¾	95⅞	97¾	95⅝	97½	95¾	97½	95½	97½	95⅝	97½	95⅝	97⅜
S	11	98	98⅜	95	95	98	98⅝	94⅞	94⅞	98	98⅜	95¼	95⅜–½	98¼	98¾	95	95
M	13	94½	94¾	93¼	94	95	95	93¼	93½	94⅝	95⅝	93⅜	93⅝	94¾	94¾	93¼	93⅝
T	14	93½	96¼	93	96¼	93¼	96½	93	96⅜	93⅜	96¼	93	96¼	93⅜	96¼	93	96¼
W	15	96	96⅜	94⅞	95	96¼	96½	95	94⅞	96½	96⅜	95	95	96¼	96½	95	95
T	16	94⅞	95½	93¾	95⅛	94¾	95⅞	93¾	95¼	94¾	95¾	93¾	95¼	94⅜	95½	93⅞	95⅛
F	17	95⅛	95⅜	94½	94¾	95	95¾	94⅝	94⅝	95¼	95¾	94⅞	94⅝	95	95⅝	9·⅝	94¾
S	18	94¾	95¼	94⅜	94⅜	94⅜	95¼	94½	94½	94¾	95⅛	94½	94¾	94⅝	95⅛	94½	94¾
M	20	94¾	95	93¾	93¾	94⅜	95	93¾	93¾	95	95⅛	93¾	93¾	94⅝	94⅞	93⅞	93⅞
T	21	93⅝	94¼	93⅜	93¾	93¾	94⅜	93⅜	93⅞	93¾	94⅜	93½	93⅞–1	93½	94⅜	93½	93⅞
W	22	94	95⅜	94	95½	94¼	95½	94⅛	95⅜	94	95⅝	94	95½	94⅜	95½	94⅛	95½
T	23	95⅝	100⅞	95¼	100⅞	95⅞	101	95¼	100¾	95⅝	99⅞	95⅜	100	95⅝	100⅛	95⅜	100⅛
F	24	101½	102⅛	100⅜	101⅛	101	102¼	10·⅜	102	102½	102½	100½	101½	102	102⅝	100⅜	101½
S	25	101¾	102⅛	97½	97⅞	101½	101⅞	97½	97⅞	101½	101¾	97⅝	97⅝	101¾	101¾	97½	97¾
M	27	97⅝	99½	96⅞	98⅝	97½	99⅝	96¾	98½	97½	99⅝	96½	98½–⅝	97½	99¾	96¾	98⅝
T	28	98⅜	101½	98⅛	100	98½	101½	98⅛	100	98⅜	101⅝	98⅜	100¼	98⅜	101⅜	98¼	100¼
W	29	99½	1:0	98⅜	99¼	99¾	100	98¾	99½	99½	99⅞	98⅝	99½	99¾	99⅞	98⅝	99⅜
T	30	99¾	100½	98	98⅛	99⅝	100¾	98¼	98¼	99¼	100½	98¼	98¼	99⅜	100⅝	98⅜	98⅜
F	31	97¾	99⅛	97⅜	98¼	98	99	97¾	98⅜	97⅝	99	97⅝	98⅜	97¾	99	97⅝	98¼

CLARK & WARREN'S REFINERY AT CORRY, PA.



AS long ago as 1875 Clark & Warren began the manufacture of lubricating oils, at Grafton, Ohio, a town located about twenty-eight miles southwest of Cleveland. Even prior to this date they were close students of lubricating oils, and from 1874 to the present they have been inventive experimenters with them. At Grafton they produced, filtered and sold lubricating oils and controlled the trade of that field. From scientific experimenting at Cleveland and making oils at Grafton they drifted to Bradford, where they commenced producing oil in 1877. After their wells were drilled and producing they built a refinery having a hundred barrels capacity on the hillside in Sawyer City, in the Kendall Creek Valley of the Bradford field. Here in an unpretentious building they demonstrated to their own satisfaction that their former experiments in making cylinder stocks, cylinder oils, petroleum, and other products of crude petroleum, could be carried out successfully on a larger scale. While producers were in a mad rush to develop the broad Bradford section, and a thousand rigs and drilling wells were under way around them, these men were making scientific experiments which were to be utilized by the committee appointed to revise the American Pharmacopœa in the year 1880, and laying the broad foundation for an oil manufacturing establishment which should be second to none in the United States.

Early one summer morning in 1880, the experimental refinery at Sawyer City was swept by fire, and only the brick work and iron which had been used in its construction stood out from the charred surroundings on the hill side. In casting about for a location for a refinery which should be complete in its appointments, they chose Corry as the most eligible site. At this point they could get crude oil from all the different fields, and from it they could send their refined oil and products of petroleum over three trunk lines of railroad running to the four cardinal points of the compass. Early in 1881 they bought ten acres of the Wellman farm, covering an old dam and saw-mill site on a branch of French Creek. Their plot of ground is bounded on the north by the N. Y., P. & O. R. R. and P. & E. R. R., and on the south by the B., N. Y. & P., the three lines crossing

at a point about 300 feet east of the refinery. As will be seen by the cut the clear waters of a branch of French Creek flow northward through the grounds. The bed of the old pond and dam is now graded and nicely drained, and is about 75 feet below the level of the B., N. Y. & P. R. R. Since the photograph was taken from which the cut was made, the level ground in their yard along the stream has been almost entirely filled with tankage. The picture, however, gives one a good idea of the surroundings and relative positions of the different buildings which will be described in detail.

Standing on the B., N. Y. & P. R. R., near the southern boundary line, one has a complete view of the refinery and a grand survey of the surrounding country. At the southern end of their lot a tiny lake with an emerald setting fairly nestles in the ravine. The white buildings, bright in their new coats of lime, on one side of the defile, contrast in a pleasing manner with the red ones on the opposite side, while the whole level bottom is occupied with various structures and the turret-shaped tanks. Miles away, stretching in all directions, the wild woodland, meadow-lands, and fields where lately waved the golden grain, make a panorama rich in picturesque beauty.

The five stills, having a capacity of 125 barrels each, and enabling the company to manufacture 300 barrels of refined oil daily, are situated on the eastern side of the basin which is formed by the banks of the old pond and the embankment of the railroad. In their specifications forming part of letters patent No. 298,825 dated May 20, 1884, their patent still is described as follows:

"The shape of the still is that of a vertical cylinder with vertical tubes running through it and arranged on radial lines, and having a large space in the centre of the still, from which by the said arrangement of tubes free access may be had to all parts of the still for cleaning and removing the refuse of distillation. The still is located in a heating-chamber in such a manner that products of combustion preferably admitted directly into the said heating-chamber will envelop the still and pass at the same time through the said vertical tubes. A bridge-wall is provided running across the bottom and up the sides of the still, and separating the heating-chamber from the top of the still downward into two parts. The products of combustion are admitted to the chamber on one side of the bridge-wall, and pass up through the tubes and around the side of the still, thence over the top and down through the tube, and around the side on the other side of the bridge-wall, and pass thence to the chimney. By this distribution the heat is utilized in a degree that is found very economical in fuel. By this distribution of heat the oil in the still is quickly and evenly heated, and the over-heating of parts and the consequent scorching of oil is avoided. Also, the construction by which the still and its contents are so quickly and evenly heated, will be found equally effective in cooling the still by passing cold air by the same route just described for the heated air."

On the 26th of May, 1885, Clark & Warren secured a patent on a still and filter combined. The filter is set on a higher level and back of the still, so that the hot air which has passed over and around the still continues through a flue and heats the filter. Storage tanks are set beneath the filters and are surrounded by an air-chamber. By an arrangement of valves the hot air can be turned on and shut off from the storage tanks at pleasure. The naphtha, which is used for fuel, is blown into the furnace by means of a jet of steam. In warm weather they use 75 barrels of naphtha daily in firing the stills, and during the cold season 100 barrels.

The tail-house at these works is quite a different affair from that found at most refineries—a place where dangerous vapors are set free. This one, and all their other buildings where there is any danger of fire, is covered on the outside with sheet-iron. The tail-house is tin-lined on the inside and fitted up with wrought-iron vacuum-boxes, the port-holes of which are covered with heavy plate-glass. As the stills are rarely or never shut down this part of the refinery is constructed so carefully that a light could be held near these vacuum-boxes with safety. But to avoid all risks of accident the light is reflected from the outside through the windows. Indicators show the vacuum pressure on the stills, which at these works is about three inches. The temperature of the stream is told as it comes from the condenser by a thermometer attached to the pipe near its opening into the vacuum box.

The cut-house is a short distance from the tail-house, and is a novel arrangement much on the plan of a switch-board in a telegraph office. Pipes at right angles to one another, in vertical and horizontal positions, with stop-cocks in them, are connected with others leading to the different tanks in the yard. By turning these

stop-cocks each product of the naphtha or benzine series and paraffine series is discharged through its own line and in its own particular tank. The stop-cocks are all numbered and labeled so that a novice could manipulate this rather intricate part of the mechanism of a refinery. For compactness and simplicity of arrangement this cut-house has not been surpassed.

The filter-house is situated on the hill side above the still-house (and is the one in the cut which is surmounted with four cupolas), and communicates with it by means of flues, which carry hot air from the stills. The filters are surrounded with walls of brick and each one has its separate compartment. Thermometers placed on the outside of the walls record the temperature of the stills. The capacity of the filtering-house in cylinder stocks or cylinder oils is 100 barrels per day. The storage tanks located under the filters are kept at a temperature of about 100 degrees, so that the oils can be run and shipped at a moment's notice. In the filter-house they have all the necessary appliances for compounding oils.

Thirty-six tanks for storing crude, refined and the different products of petroleum are grouped about the yard, ranging in capacity from 6,000 barrels down. The tanks in which the refined oil and lighter products are kept are constructed with special reference to safety if struck by lightning or having the gases set on fire by any other means. Each has a capacity of 500 barrels, and consists of a sheet-iron rim eight feet in height with a spherical-shaped roof of wrought iron. This dome on each tank is pierced by three man-holes about sixteen inches in diameter, covered with doors swinging on hinges. An iron rod shaped like a jug-handle is riveted to the top of the tank so that the door if raised by the pressure of gas exploding would strike against it and fall back in its place and the burning gas on top of the oil would be extinguished for the want of air. The doors and the collars upon which they fall are ground, so that when closed they are nearly air-tight. A ditch around each tank connects with an underground drain having a discharge below the works. The crude is allowed to settle in the 6,000-barrel tank before any of it is used in the stills. This is necessary where sand has found its way into the oil from a pumping or flowing well. A gauge of each well is taken every morning and any loss or waste of oil is easily detected.

The wax-house where the paraffine is made is a two-story structure having a length of 140 feet and a width of 30 feet. Mr. Warren evidently thought the low temperature which prevailed in the pressing and cooling rooms would not agree with our reporter who was only allowed to catch a hasty glimpse of the interesting processes which were going on. Where the light pressing is done the temperature is maintained at 40 degrees. In one room stood three large presses, each capable of pressing a ton of paraffine at a run. The cooling room, where the material in a crude state is stored in sail-cloth bags, has a length of 120 feet. The paraffine is taken from the presses in cakes perhaps two feet square, and is re-melted and packed in barrels in which most of it is exported to foreign countries. The melting points range from 116 to 132 degrees.

The agitator has a size proportionate to the still capacity of the refinery, and is made of iron with a lead lining. It has a spherical bottom and is open at the top. It is constructed in such a manner that an explosion could hardly take place while it was being used.

Four boilers properly housed and having a combined power of 280 horse, furnish the impelling force of the works.

The circle of pumps grouped in the iron-bound pump-house and located in the different buildings number fourteen and have an average of fifteen horse-power. Each product has its own special pump, line and tank.

Wherever petroleum is reduced from the crude state to the products, gases are set free, and there lurk the elements of fire. Clark & Warren had their refinery at Sawyer City burned, and their works at Corry were partially destroyed in August, 1884. To meet any emergency they have erected a hose-house and tower in which are stored 800 feet of regulation hose on two reels. The interior of the building is elaborately decorated with axes, picks and shovels.

The company has two switches, one connected with the B,, N. Y. & P. R. R., and the other running from the P. & E. R. R., built at a cost to them of $1,000. On their switch connected with the B., N Y. & P. R. R., ten oil cars can be run and unloaded at one time. As the grade of this road stands 75 feet above the bottom of the storage tank the crude used gravitates easily to its receptacle. In fact oils and all substances used or manufactured are run one way by gravity at these works.

The platform of the acid-house is on a level with the floor of the cars in which the carboys are hauled. A lead-lined box in one corner of the room is connected by iron pipes with the agitator. In the acid-house the animal oils are stored. They are used in the manufacture of cylinder oils and high-grade engine oils. Some of these animal oils are imported and others received direct from manufacturers.

The boneblack used in filtering oils is rather expensive, and to economize in this article Messrs. Clark & Warren patented a process for renewing it after it had been used. In letters No. 279,335, dated June 12, 1883, they say: "It is well known to the skilled in the art that oils are purified or filtered by passing through animal charcoal, known as boneblack, and the purification is accomplished by means of the absorption of the impurities of the oils by the boneblack. This process may continue until the boneblack becomes so saturated or filled with these impurities that it can receive no more. The boneblack itself is then purified or renewed by heating it and burning out the impurities. This has heretofore usually been done in pots or closed vessels, in order to save as much as possible the carbon and phosphates. This treatment in renewing the boneblack may be satisfactory when the boneblack is used for refining sugar, and other purposes, but in filtering oil boneblack that has been renewed in this manner is of little value. Instead of renewing the boneblack in closed vessels and excluding the air, our process consists of burning it on an open hearth or floor and stirring it thoroughly, that all parts may be well exposed to the air, the impurities of the oil furnishing the means of combustion. When these impurities are all burned and the combustion ceases the boneblack is thoroughly renewed, and when cold is ready for use. Under this treatment boneblack is usually better after the first and second renewals than when new, and may be used and renewed many times before its purifying or filtering qualities are exhausted."

The brick oven in which the boneblack is burned is an arched structure with open ends and a chimney for carrying off the fumes. On the bottom at each end there is a roller used to support the hoe, rake or other device used in stirring the bone-dust. Before Clark & Warren patented this process bone-dust was used but once and then sent to some fertilizing establishment.

The barrel-house is a two-story structure 120 feet in length by 40 feet in width, and fitted up with mechanical devices for turning out barrels of the best quality. Their barrels are made from split staves brought from Indiana. Export hoops, *i. e.* those weighing twelve lbs. to the set, are put on barrels for their domestic trade. A barrel is never used a second time with this firm for shipping lubricating oils to any of their customers.

The laboratory is a storehouse of instruments of all kinds used in testing and experimenting in oils. One of its features is a testing cabinet where the vessel containing the oil under test is enclosed by glass from the operator. A chimney from it conducts all offensive odors into the open air. Messrs. Clark & Warren are liberal purchasers of all new instruments which can be used in keeping pace with and leading the trade in everything which pertains to lubricating oils and the products of petroleum. A small still in an adjoining room is an auxiliary to experimental work. In this laboratory some of the finest oils in the market to-day were first brought to light.

Five large bleachers used in the manufacture of their bloomless neutral oils, when seen at long range, look like green-houses built for the growth of rare exotics. Each of these bleachers has a capacity of 75 barrels. Besides these at Corry they have five 100-barrel bleachers at Baltimore, with filters to keep the same running. Crude stocks for the Baltimore works are shipped from Corry.

Clark & Warren manufacture thirty-nine different grades of oils. Twenty-four of these are particularized and described in a neatly-printed pamphlet of thirty-two pages, which is presented to the trade by the Pennsylvania Oil Co., who are the agents for the sale of oils manufactured by Clark & Warren. Their 300 fire test illuminating oil is used on ocean steamers and in Pullman cars.

The cylinder stocks are classified from A to F inclusive, and have a fire test ranging from 500 to 600 degrees Fahrenheit. The gravity of these stocks, which is taken at a temperature of 100 degrees, runs from 27 to 28 degrees inclusive. Their D cylinder stock of 600 fire test and 27 gravity is described as follows:

"This is a light filtered stock, of a clear bright coffee color, and to those wishing to compound a darker grade of cylinder oils it is all that can be desired; the fire test is high, the gravity low, and it is in every respect a first-class oil."

Special attention is invited to their 29 deg. railroad oils. One having a fire test of 385 deg., and cold test of 15 deg. is outlined as follows:

"This is a dark-colored, highly-compounded filtered oil, with a cold test better than 15 deg. It has great viscosity, and is the only filtered and compounded oil that will stand so low a cold test; it is especially desirable for use in cold weather, but it is also a good summer oil, and wherever it has been used is pronounced better than the West Virginia natural oil."

The other has a fire test of 400 deg., and a cold test of 30 deg. They speak of it as a dark filtered compounded oil specially adapted to heavy machinery and railroad use. It is heavy in body, and in summer, or when it is not exposed to great cold, is equal to the 15 deg. cold test as a lubricator. As a dark oil it is a superior brand.

Clark & Warren lead the trade in the manufacture of filtered bloomless neutral oils. They have patented the process by which they are made and it is used by them alone. Three brands are made, having a gravity of 32 1-2, 34, and 37 deg., and a fire test respectively of 430, 400, and 360 deg. These oils are light canary in color, very greasy in appearance, and have a sweet odor, and contain many of the properties of animal oils. They have great viscosity and lubricating power; no acids are used in their treatment, and this, with their other properties, makes them especially valuable for mixing with other oils for lubricating, or wool oil purposes.

The petrolatum manufactured by this firm is used by the surgeons of the United States army and navy, and it is through the efforts of Clark & Warren that it came to be adopted by the United States Pharmacopœa. Seven different grades of petrolatum are sold by them having a melting point running from 98 to 120 deg.

The Pennsylvania Oil Co. are the agents for the products manufactured by Clark & Warren and also sell other oils. Their principal houses are in New York and Chicago, and they have branches in Baltimore and Boston. They have water privileges of their own at Elizabethport, N. J., where they load by means of lighters the vessels which turn their prows toward the ocean waves. They own sheds, store-houses and tank-cars, and pay no storage while handling oil at this point along the seaboard. The officers of the Pennsylvania Oil Co. are as follows:

President—M. H. Warren, of Corry, Pa.
Secretary—L. C. Payne, of Wilksbarre, Pa.
Treasurer—J. C. Payne of New York city.

Rhigolene.

For local anæsthesia by cold there is no fluid ordinarily obtainable so rapid in its effects as rhigolene. This is the lightest of the petroleum derivatives, having a specific gravity of only 0.60, and boiling at from 69 to 71 deg. F. The objections to its use, however, are very grave, its odor being unpleasant, and its inflammability very great. It should never be used in proximity to a lamp or fire. With precaution it may be used to great advantage in superficial operations, as it freezes the tissues rapidly, and, as compared with ether, deeply.

Advance in the Price of Pipe.

A session of pipe manufacturers was held in Pittsburgh July 24. The number of firms represented was fifteen, and they do 95 per cent. of the business of pipe-making. The only business of importance done was the adoption of a resolution to advance the present selling price of all wrought iron pipe, black and galvanized, including line pipe, oil and gas casing, boiler tubes and oil well supply goods. On black pipe ranging from ⅛ to 1¼ inches, the old discount of 50 per cent. off is changed to 47½ per cent. off, and on galvanized from 40 per cent. to 37½ per cent. On black pipe ranging from 1½ to 15 inches, the discount is changed from 65½ per cent. to 65 per cent., and on galvanized from 50 per cent. to 47½ per cent. These rates are on carload lots. For less amounts than carloads, 2½ per cent. is taken from the discount.

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virginia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11,894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441

The purchase of the Ohio Transit Co. by the Macksburg Pipe Line took place January 23, and annihilated the 30 cents a barrel premium the Macksburg producer recived for his oil. George Rice's line, from Macksburg to the Muskingum River, was completed on the 19th of May.

P. C. BOYLE, the veteran oil region journalist, has leased the Oil City *Derrick*. His keen scent for news and his thorough acquaintance with the oil-fields of New York, Pennsylvania, Ohio and West Virginia will enable him to freight its columns with the crude thought of the hour. In the next number of the AGE we shall print a story from Mr. Boyle's versatile pen, when the readers of the AGE will hear more of the oil scout who is reanimating the pages of the *Derrick*.

W. N. RIDDLE filed a petition August 10th in the Court of Common Pleas No. 1, Pittsburgh, stating that he had been arrested at the instance of Stewart Bros. for debt, and had given bail which was duly approved by court. He concluded by asking the court to grant him his discharge under the insolvent debtor act. The court heard the application and fixed Saturday, September 12th, as the time for hearing the application. His arrest for debt followed the close of the famous conspiracy trial.

OIL REGION CHRONOLOGY.

FOR JUNE AND JULY, 1885.

JUNE 1. AGE Oil Report shows 212 wells completed, of which 31 are dry; new production, 5,478 barrels: new rigs, 158; old rigs, 125; wells drilling, 252: total field operations, 535. Thorn Creek gauge, 9,148 barrels. Market quiet and weak: opens at 79 3-8 closes at 78 1-4. Mt. Nebo well reported to have made a 15-barrel flow.

June 2. Mt. Nebo well running bailer, said to have filled up 1,000 feet. Thorn Creek gauge, 8,210. Market rallies somewhat through shorts covering. Closes at 79 3-8 with sales. Carrying rates: Bradford, 60a70c.: Oil City, 55c.; New York, 30a50c.; Pittsburgh, 55c. Conference of the Prohibitionists at Orphens Hall.

June 3. Thorn Creek gauge 7,880. Indifferent market. M. L. Lockwood's well on McKinney farm, northeast of Renfrew, abandoned as totally dry.

June 4. Market dull and quiet. Closed at 79 1-2.

June 5. Market makes a small break, closing at 78 5-8. Mt. Nebo (Emsworth) well makes an 8-barrel flow. Thorn Creek gauge 6,809. Heavy storms throughout lower oil country. Tank at Eclipse Refinery, Franklin, washed from its foundations by the heavy rains. Many properties damaged at Oil City, while one house was struck by lightning. Fertig & Henne, on Gibbs farm, Cogley, showing for a 50-barrel well.

June 6. Market sluggish. Closes at 79. Death of W. W. Bronson, a well-known oil producer, at 67 School street, Bradford, aged 43 years. Thorn Creek gauge 6,423 barrels from 131 wells.

June 7 (Sunday). Whitehill & Best's two tanks on lot 165, near Tiona, struck by lightning and destroyed. Col. Allen's residence at Warren injured by a thunderbolt.

June 8. Exciting election at the Consolidated Petroleum Exchange, New York, resulting in the success of a so-called "Independent" ticket." Stationary market, closing at 79 1-4.

June 9. Thorn Creek gauge, 5,987. Market slightly firmer. Startling rumors of flowing wells in Ohio afloat. Cleveland Rolling Mill Co., in the Eighteenth Ward of the city of Cleveland, strike oil at 2,680 feet in a well drilling for gas. Will go 3,000 feet. Davis well at Rockland, 75 rods south of the Lee pumping well, through the sand and dry. Mt. Nebo well has 1,800 feet of fluid in the hole. Bailer lost at Mt. Nebo well.

June 10. Mt. Nebo well said to have 1,900 feet of oil in the hole; still drilling in white sand. Thorn Creek gauge 5,918. Dry holes reported: Landsrath, on lot 374, Wetmore township, McKean: Dr. Heath, on lot 576, Watson township: Christie Bros., on Galloway farm, Butler: Stage & Bly at Hilliard's, and Phillips No. 3, Lavery farm, Thorn Creek. Market sells at 80 cents in New York. Closed at 79 3-8; Fishers heavy buyers. Staley & McDonald, on Kahl, at Cogley Run, light. Fertig & Henne, on Rickenbrode, starts at 90 barrels. Crawford & Brother, on Strutman, making 70 barrels a day.

June 11. Twenty-six producing wells in the Cogley Run district, with a daily production of 725 barrels. Bassett well abandoned. Lappe well, on McElwaine farm, located on theoretical northeast extension of Thorn Creek, down and dry. Pipe line reports for May show average runs 57,135: average shipments, 67,637. Net stocks, decrease 565,252 barrels.

June 12. Phillips & Parker well, at Kinzua village, runs into the sand unexpectedly, and makes a good showing. Fishers still buying heavily, market ranges from 79 1-8 to 79 3-4. Mt. Nebo well shut down. L. Kraeer & Co. explode 1,000 pounds of nitro-glycerine in their No. 4 well on lot 241, Tiona. Dr. Heath well, on lot 576, Watson township, Warren county, shot with 120 quarts. Well a failure.

June 13. Market extremely dull. Closes at 79 1-2. Parker well, Kinzua village, makes 70 barrels first 13 hours. Thorn Creek gauges 5,374 barrels from 135 producing wells.

June 15. Market opens steady at 79 5-8 and advances to 80 cents before 11 A. M.; drops back to 79 3-4. New York begins buying heavily, and it advances to 81; recedes to 80 1-2, and closes at 80 5-8 bid. Mt. Nebo well fishes out bailer and makes a seven-minute flow. Thorn Creek gauge 4,696. Well at Eastside Paper mill, Lima, O., pumps 25 barrels of oil, said to be fine lubricator of 36 gravity. Phillips well on Wise, Thorn Creek, abandoned at 2,020 feet. Trial of W. N. Riddle and G. L. Reiber, of the Penn Bank, for conspiracy, begins at Pittsburgh. Stock company formed at Oil City to rebuild opera house. New York Petroleum Exchange enlarges its quarters by the addition of 62 Broadway to the old Exchange.

June 16. First sales at 80 7-8, advances to 81 3-8, falls back to 80 7-8, advances to 81 1-2 and at the last hour falls off and closes at 80 3-4. Mt. Nebo well bailing out water. Landsrath well on 374, Wetmore twp., abandoned at 2,100 feet. Bassett well, Cogley district, reported dry.

June 17. Market lifeless: closes at 80 3-4.

June 18. Market stronger. Opened at 81 1-4, advances to 81 3-4 and closes at 81 3-8. Thorn Creek gauge 4,120. *Evening Star* re-appears after a seven months' rest.

June 19. Market opens at 81 5-8; remains dull and featureless till near the close, when it rallies and closes at 82 1-2. Mt. Nebo well through the sand and drilling in slate.

June 20. Market opens at 83 1-4, breaks to 82 1-8, rallies to 82 7-8, falls back to 82 3-8 and closes at 82 1-2 bid. Shousetown well, eight miles northwest of Mt. Nebo, reported showing oil. Franklin decides to grant certain parties exclusive privilege for six months to lay pipe for bringing natural gas to the city.

June 21 (Sunday). Welsh, Agnew & Co.'s No. 1, on 3,195, northeast of Balltown, starts at 100 barrels.

June 22. Market quiet and firm; closes at 82 1-8. Refined quotations marked up at Antwerp. Thorn Creek gauge 3,932 barrels.

June 23. Market opens weak at 81 3-4, recovers to 82 3-8, relapses to 82, and during the last few moments makes a sudden advance to 83 5-8, closing at 83 1-2. Thorn Creek gauge 3,988, from 146 wells. Boden & Aiken's No. 11, at Macksburg, makes 427 barrels the first 24 hours.

June 24. Market develops greater strength and advances with great excitement to 86, closing at 85 1-8. Fishers and the Standard reported behind the boom. W. N. Riddle and G. L. Reiber, of the defunct Penn Bank, pronounced not guilty of conspiracy, and the costs to be paid by the prosecution. Thorn Creek gauge 3,966.

June 25. Upward movement in market continues. Closes at 87 1-8. Thorn Creek gauge 3,860. Mt. Nebo tubed and set to pumping. Miss Steiner, of the Standard Opera Company, horsewhips an impertinent young man from Lock Haven, in front of the Wagner Opera House. Shousetown well drills out plugs and goes 10 feet in sand with no improvement. Has 500 feet of oil in the hole. Struck sand at 1,465 feet.

June 26. Market opens at 87 1-4, advances to 88 1-4, breaks to 86 5-8, and closes at 87 3-8 cents. Carrying

rates: Bradford, 50a55c.; Oil City, 55c.; New York, 40c; Pittsburgh, 50c. Mt. Nebo well pumped 33 barrels past 24 hours. Sales at the New York Petroleum Exchange reach 23,208,000 barrels, the largest in history of any exchange.

June 27. Market opens with a weak feeling manifest: breaks to 87, advances to 88 1-4, goes back to 87 3-4, and then jumps to 89 3-8; temporary reaction to 88 7-8, and then a spirt to 90 cents. Closes at 89 7-8 bid. Shonsetown well 12 feet in the sand and filled up 400 feet. Thorn Creek gauge 4,034 barrels, from 148 wells. St. Joe district has 45 wells, producing 1,057 barrels.

June 28 (Sunday). N. T. Co.'s iron tank, No. 297, of 11,000 barrels capacity, struck by lightning at Carrolton and consumed with contents. Congregation at Presbyterian church subscribes $120 to the Bradford Hospital fund.

June 29. Bradford begins to feel that the "boom" in the market is genuine. First sales at 90 1-2; goes up to 94, and closes at 93 7-8. Shonsetown well drilling in slate, and reported little better than dry. 95 5-8 reported bid for oil at New York after the close. Cogley Run district increased to 1,200 barrels production by completion of the Fertig & Henne, Gibbs, No. 3; Urquhart & Lavens, Young, No. 4, Roess Bros., and Young, No. 1. Murphy & Ray well, southwest of Tiona, reported dry. Galey well at Phillipsburg, Beaver county, through sand and dry. New York worsted by adhering to summer programme of opening Exchange at 11 A. M. Market rushed up three cents while brokers are waiting for bell to ring.

June 30. Market opens at 94 1-2 and advances to 95 7-8; just before the close breaks to 91 7-8 and closes at 92 1-8. Mt. Nebo well pumping about 15 barrels a day. Titusville and vicinity visited by white frost. *Evening Bulletin*, Meadville, suspends publication. Thorn Creek gauge 3,874 barrels. Charter granted at Harrisburg to Franklin Natural Gas Co. Carrying rates: Bradford, flat and 25 premium; Oil City, 50; New York, 25, and Pittsburgh 50 cents. Market last year, this date, 59 5-8 to 63 3-4. McCormick well on Plucker farm, near Olean, shot with 100 quarts and reported showing for a small pumper.

July 1. AGE Oil Report shows 249 wells completed, 35 of which are dry; new production, 3,182; new rigs, 173; old rigs, 128; wells drilling, 234; total field operations, 535. Market comparatively inactive, closing weak at 91 7-8 bid. Carrying rates: New York, 40a50c.; Oil City 50c.; Bradford, flat to 25c. Advent of a panther in the vicinity of Windfall, on the K. & E. R. R., creates some excitement among the population.

July 2. Tendency of market downward. Opens at 91 7-8 and closes at 90 3-4. Well on McCormick farm, three miles northeast of Olean, showing for a producer.

July 3. Market very active, advancing all day. Opens at 91 1-8, goes to 97 7-8 and closes strong at 96 1-2.

July 4. Independence Day. Thorn Creek gauge 3,732 barrels from 153 wells. Quiet day at Bradford. One hundred yard foot-race at Driving Park for $100, between Frank Zook, of the Bradford Oil Exchange and Bert Willis. Zook the winner in 11 1-2 seconds.

July 5 (Sunday). Jones & Thompson well 664, Cherry Grove, Warren county, through 20 feet of fair sand, with no oil nor gas.

July 6. Market opens at 99 and weakens off first hour to 97 3-4. Rally sets in and wild excitement prevails until 102 7-8 is reached. It vibrates sharply under heavy selling, drops to 100, rises to 101 7-8, falls back to 97 3-8 and closes at 97 7-8. Two lay-downs among the bears at the New York Petroleum Exchange. Transactions in New York Exchange reach 19,823,000 barrels. Belgian Glass Co.'s plant at Meadville burned to the ground. Loss $60,000; insurance $38,000. A. Brink, of Olean, killed at Flatiron Rock, near Eldred, by a fall from his wagon.

July 7. Market very active, New York selling and Oil City and Bradford buying on every break. Fisher still strong buyer. Opens at 97 7-8, advances to 98 1-4, breaks to 96 7-8, rallys to 99; breaks again to 95 3-4, reacts to 98 7-8 and closes at 98 1-8. Adam Croll, of Pearl street, while assisting in taking down an iron tank at Lafferty Hollow, falls into the tank and sustains serious injuries.

July 8. Market weaker; closes at 96 5-8, lowest point of day. Boiler explodes at sawmill of Acme Lumber Co., near Titusville, killing the engineer, Elliott Alcorn, and scalding three others, Jacob Miller, J. Langworthy and A. W. Massiker. Mill a total wreck.

July 9. Trade growing bearish. Market closes 95 5-8. Well at Athens, O., thirty miles from Macksburg, reported to have found the Macksburg sand and showing some oil. Mrs. N. R. Collins, of Bradford, commits suicide by hanging. Mt. Nebo well shot and made a four-minute flow. No improvement noticeable. Harry B. Goe, son of Bateman Goe, of the Hazlewood Oil Co., sustains severe injuries by a fall from his window in the Berry-Melvin block. J. B. Smithman strikes a heavy gasser on the Karns farm in Pine Grove township. It is a half-mile south of the Speechley No. 1, and makes the fourth deep sand gas well in this locality.

July 10. Market opens at 95 3-4 and closes strong at 97 3-4.

July 11. Fisher still the controlling spirit in the market. Opens at 98 and closes at 95. Wells at Thorn Creek, 154; production, 3,439 barrels. Koch Bros. & Goettel's well, southwest of Cogley Run development, in sand and showing for a producer.

July 12 (Sunday). Koch Bros.' well, Cogley Run, shot and doing 135 barrels a day.

July 13. Rumors current that the Fishers have retired permanently from the market. Absurd reports of promising oil well at Williamsport, Pa. Market opens at 94 1-2; lowest, 93 1-4; closed at 94. Cogley Run district gauges 1,450 barrels from 53 producing wells. Death of Adam Croll, on Pearl street, from injuries received by falling into iron tank at Lafferty Hollow. P. & E. R. R. ticket office at Corry struck by lightning and fired. Flames speedily extinguished. No one injured. Hon. Samuel B. Dick, of Meadville, appointed receiver of the N. Y., P. & O. R. R. A cloud burst at Titusville and a stream near centre of city rises to an unprecedented height. Two bridges washed away and large amount of property damaged.

July 14. Another victorious day for the bulls. Market opens at 93 1-2, drops to 93, and closes at 96 1-4 bid. Dale and Bradley wells at Federal Creek, Ohio, both down and dry.

July 15. Market opens at 96 and under heavy selling breaks to 95; rallies to 96 3-8 and falls back just before the close to 94 7-8 and closes at 95. Fully 1,000 Bradford people leave the city over the R. & P. R. R. to attend the opening exercises of Niagara Falls Park. Guy McCormack, of Edenburg, falls from a derrick on the Young farm, Cogley Run, sustaining fatal injuries.

July 16. Market makes a small break to 93 7-8, but closes steady at 95 1-8. Andy Watson, while pulling the rods at one of White & Co.'s wells near Renfrew, Butler county, fell from the sucker-rod board, striking roof of derrick-house, and thence to ground with slight injuries. F. H. Gibbs, formerly of Gibbs & Sterrett Manufacturing

Co. of Titusville, dies at Nunda, N. Y., aged 69 years. He was the father-ln-law of Col. J. J. Carter and father of C. L. Gibbs, of Olean.

July 17. Market torpid; fluctuations light. Orvis continues buying in N. Y. Closes 94 5-8. Van Amburgh's circus.

July I8. Market dull and lifeless. Opens at 94 3-4; lowest 94 1-2; closes at 94 5-8. Thorn Creek production 2,956 barrels from 156 wells·

July 19 (Sunday). John Johnson seriously burned at Bell's Camp by explosion of gas in a boiler-house, Ruan's oil lease. White well, on Rollins, Kinzua village, struck sand Saturday night, and showing for good well.

July 20. Market quiet, but falls off rapidly during last hour and closes at 93 3-4. Cole's circus attracts crowd to the city. Edward Smith, a brakeman on the Erie R. R., killed while coupling cars at the Bradford depot. Death of Robert Tate, a pioneer oil operator, at Oil City.

July 21. Market slightly stronger. Closes 93 3-4.

July 22. Market opens at 94 and closes firm at 95 3-8 bid. Case of J. S. Schoonover vs. W. B. Roberts, claiming $400,000 for alleged infringement of torpedo patents, in U. S. Circuit Court at Erie, decided in Roberts' favor. Titusville grants Oil City Fuel Supply Company the right and privilege for laying pipes through her streets, to supply the citizens with fuel gas.

July 23. Market again passes the dollar mark. Opening at 95 5-8, there was a break to 95 1-4, when a rally took place that carried it to 100. Another break to 97 1-4 followed by a strong closing at 100 7-8. Bradford in mourning for General Grant.

July 24. First sales to-day at 101 5-8, followed by a reaction to 101 1-4 and a rally to 102 1-8. Goes down to 100 3-8, up to 102, and closes at 101 1-8. Bradford C Company of 16th Regiment N. G. starts for State encampment at Conneaut Lake. Death of John Tack at Cape May, father of the five well-known Tack Brothers, aged 86 years. Meeting at the Opera House to voice Bradford's grief over the death of Grant. Clearances New York 25,118,000 bbls.; Oil City 12,372,000 bbls.

Jnly 25. New York turns in to sell and market sags off to 97 1-2 and closes at 97 7-8. Thorn Creek wells 154, production 3,002 bbls.

July 26 (Sunday). Phillip Goettel, a former broker in the Oil City Exchange, occupies the pulpit of the M. E. Church at that place.

July 27. Carrying rates at New York run from 70c. to $1.00. Market opens at 97 5-8, goes down to 96 7-8, jumps to 99 1-2 and closes at 98 5-8. Patterson and Roe in New York, Jennings, Frost and Blackmarr, in Bradford, all large buyers.

July 28. Market stronger; opens at 98 3-8 and closes at 100. Highest point of the day 101 1-2. Frank Esebarger and Thomas Cornelius struck by a falling timber at a derrick on Hazelwood Oil Co.'s lease near Rew City, and badly but not seriously injured.

July 28. Market opens weak at 99 1-2. Highest point 100; closes at 99 1-4. Death of Hon. M. C. Beebe, of Pleasantville, at Asbury Park, N. J., ex-member of the Legislature, and of the Constitutional Convention.

July 30. Market opens at 99 3-4. A general disposition to sell manifested, but advanced to 100 1-2 with few sales at 100 5-8. Afternoon shows weakness. Touches 98 and closes at 98 1-8 bid. Thayer well in Washington county boarded up and placed under guard. Four funerals at Oil City. Production of Cogley Run reported at 1,650 bbls.

July 31. Market opens at 97 3-4 and closes at 98 1-4. Carrying rates: Bradford and New York 70 to 80c.; Pittsburgh 50c., and Oil City 55c.

A Premium On Middle Field and Lower Country Oil.

It is well known among refiners that the Middle field and Lower country oil is superior to Bradford oil for refining purposes. Clarendon oil, *i. e.* that produced in Warren county about Stoneham, Tiona and Clarendon, is very much sought after by those who manufacture fine grades of illuminating oils and the products of petroleum. Butler county oil is in demand at a premium since the advent of the Pittsburgh pipe lines, who were offering five cents above certificate prices two months ago. Hereafter the National Transit Co. will keep oils in the different sections separated, so that purchasers can secure crude from any particular locality. Since July 4th the oil buyers have been paying ten cents premium on products in the Middle and Lower fields. The following is a copy of Mr. Seep's official order to buyers:

OFFICE OF JOSEPH SEEP,
OIL CITY, Pa., August 5th, 1885.

FIELD BUYERS—Please observe the following instructions, viz :

On and after to-day pay ten cents per barrel above certificate prices for Butler, Armstrong and Clarion oil run since July 4th, known as Lower District oil ; also pay ten cents above certificates for Warren and Forest county oil, classed hereafter "Middle Distrlct" oil, and will be designated L. D. or M. D. where balances are called for. Certificate prices will be quoted from this office, and you can add ten cents on such oil as specified. Please notify producers promptly of this change, and that the premium will be paid on all oil run after July 4th, ultimo.

JOSEPH SEEP.

The outside refiners in the region are all located along Oil Creek and on the Allegheny River, with the exception of the Kendall Refining Co. at Tarport in the Bradford field. This move on the part of the oil-buyers gives the refiners of Bradford and Allegany an advantage of ten cents per barrel in buying crude. Stills have to be run more slowly in refining Bradford oil, and some refiners claim that the other oil is preferable at a premium of ten cents per barrel.

Since the Standard began paying the premium on the Clarendon oil, parties have been canvassing the field, and trying to make contracts for the future delivery of Clarendon oil at a price above the premium now paid by the regular buyers. Producers are getting a benefit from the competition for Middle field and Lower country oil, and should not kill the goose which is laying the golden egg. Drs. F. Salathe and F. Mann the scientific chemists and experts of the American Analine and Chemical Co., at Titusville, are prepared to make comparative tests of oils from the different sections for refining or other purposes.

JULY OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN JULY, 1885.

Allegany Field.

Twp.	Owner.	Barrels.
Scio, lot 4,	McEnroe & Elliott	5
" lot 1,	Pickering & Smith	8
" lot 1,	Applebee Bros No 5	8
" lot 2,	Coast Oil Co No 33	5
" lot 2.	" No 34	5
Alma, lot 1,	Phillips Bros No 19	6
" lot 86,	Finnegan & Co No 4	5
" lot 78,	Torry & Pirdun No 2	5
" lot 3,	Triangle Oil Co No 15	5
" lot 86,	Shirley & Hochstetter No 4	6
" lot 79,	Kansas Oil Co No 2	3
" lot 20,	W F Coast	5
" lot 22,	Scott & Co No 1	3
" lot 37,	Perrin & Young No 7	6
Willing, lot 63,	Shirley & Hochstetter No 1	6
" lot 62,	E T Johnson No 1	5
Wirt, lot 33,	Miner, Wellman & Fuller	5
" lot 34,	Nicholson & Co No 2	5
" lot 34,	H H French & Co No 5	5
" lot 52,	Wilson Bros & Ackerly No 4	10
Bolivar, lot 7,	Coast Oil Co No 32	5
" lot 7,	W & J Duke No 18	10
" lot 8,	Anderson Bros & Bryson No 3	5
" lot 19,	Pliny Parker	6
" lot 32,	Hazlewood Oil Co	5
Clarksville, lot 13,	Warner & Gleason	5
" lot 28,	Love & Penzer No 6	10
" lot 12,	Keystone Gas Co (for gas)	dry
" lot 13,	Ackerly, Barton & Co No 1	5

Wells completed	29
Production	162
Dry	1

Bradford Field.

Warrant 3908,	J B Mumford & Co (second sand)	5
Craft, Archer & Roy No 12,	(second sand)	20
Rutherford, J T Jones No 39		10
" " No 40		10
Dikeman, Whitney & Wheeler No 27		8
Irons, H T Brcese		5
C B & H, Watson Oil Co No 35		6
" Mosier Bros		5
" Bulger & Dana No 2		5
" W W White No 8		8
Plucker, McCormick		2
Van Campen, Geo Van Campen & Sons No 22		8
Weston, J L McKinney & Co No 3		3
" " No 4		4
Dodge, Shear Bros No 10		6
" Fair & Co No 2		5
Barse, Mitchell & Co		6
Bingham, lot 585,	Associated Producers' Co No 49	5
" lot 589,	" No 51	30
" lot 567,	Rose & McLeod	5
" lot 590,	Bayne & Fuller No 9	10
" lot 591,	T. J. Melvin No 8	5
" lot 538,	C P Byron No 1	10
" lot 614,	Rose & McLeod No 7	15
" lot 578,	Union Oil Co No 30	20
" lot 560,	" No 32	50
" lot 576,	" No 33	50
" lot 576,	" No 39	40
" lot 418,	" No 27	8
" lot 425,	" No 28	10
" lot 539,	" No 41	20
" lot 547,	" No 40	25
" lot 551,	" No 24	20
Warrant 3084,	" No 58	15
Warrant 3553,	Hazelwood Oil Co	dry
Niles Tract,	Chapin & Co No 6	5
Sugar Run,	Beatty, Sherman & Co	3

Wells completed	37
Production	462
Dry	1

Warren and Forest.

Glade and other Towns.

Kinzua Village, Harris (Island)	Brown & Fogel	6
"	Marsh, Dr Van Scoy	5
"	Rollin, W W White	40
Wardwell, Benedict & Robinson No 19		8
" " No 20		10
North Warren Asylum, Hoffman & Eldred		dry
Elk Twp, 5542,	R Sehnur & Co	dry
Pine Grove, Briggs farm,	Wesley Chambers	dry
Struthers, Fred Hayes No 2		10
James Roy, John Trubey		2
Eddy, Butts, Harley & Co No 2		5
Irvine, T J Melvin No 5		8
Lot 470, Pleasant, Barnsdall Bros		dry

Wells completed	13
Production	94
Dry	4

Clarendon.

Lot 35,	Hazeltine & Bell, No 5	6
35,	McElwaine & Windsor No 1	2
35,	J Smith Son No 3	6
35,	Henessey & Murphy No 1	5
35 and 53,	A J Thompson & Co No 6	6
"	" No 7	8
"	" No 9	5
53,	Union Oil Co No 26	6
496,	D Beatty & son No 6	6
496,	" No 7	6
497,	Porter & Tupper No 4	5
496,	P Kratzer, No 4	5
496,	Fred Hue No 9	6
484,	South Shore Oil Co No 9	5
463,	Steelsmith & Co No 4	5
464,	Bines & Rogers No 3	5
80,	Thayer & Crosby No 8	8
107,	W B Roberts & Son No 14	7
558,	Goal Bros No 11	6
558,	" No 12	7
558,	Sam Tait Jr No 38	5
557,	Town Bros	6
532,	C A & D Cornen No 5	6
583,	F H Roekwell & Co No 15	6
583,	" No 16	8
592,	Clark, Foster & Co No 3	7

Wells completed	26
Production	154

Tiona.

Lot 111,	E O Emerson No 1	2
103,	J L & J C McKinney No 3	5
103,	" No 4	5
103,	" No 5	6
103,	" No 12	6
103,	" No 13	6
104,	" No 3	8
104,	" No 4	8
110,	" No 30	6
110,	" No 31	8
161,	Helm & Mealey	5
161,	Charles Dunham No 7	6
165,	Whitehill & Co No 10	6
164,	Hill & Powell No 4	6
201,	Wesley Chambers No 7	6
201,	L H Best No 4	6
202,	Mandell Oil Co No 2	5
204,	(Hague) E O Emerson No 5	6
204,	" " No 6	8
158,	E O Emerson No 1	3
204,	W J Wood & Co No 7	6
205,	—— Bright & Co No 1	8
204,	Booth, Bovaird & Seyfang No 13	7
205,	H B Beatty & Co No 12	5
240,	Coehran Bros No 3	6
243,	" No 2	5
241,	F W Winger No 10	8
244,	" No 11	8
241,	L Kraeer & Co No 3	6
241,	" No 10	8

Wells completed	30
Production	184

Cooper District.

Lot 439,	McCalmont Oil Co No 25	5
407,	Shank & Stewart No 6	10
2735,	Reno Oil Co No 8	dry
Henry's Mills,	Fertig & Henne	dry

Wells completed	4
Production	15
Dry	2

Balltown.

Warrant 3195,	Clark & Co	30
" 5215,	May, Kelly & Grandin No 34	50

Wells completed	2
Production	80

Miscellaneous.

Limestone, 5225,	O'Donnell & Co	dry
Cherry Grove, 664,	Thompson & Jones	dry
West Hickory,	James E Coehran	dry
"	Dr Shamburg	8
Grand Valley,	W W Hague	5
Forest, 3561,	W B Roberts & Son	4

Wells completed	6
Production	17
Dry	3

Lower Country.

Venango.

Farm.	Operator.	Barrels.
Columbia, Columbia Oil Co		10
West Hickory. G Shamburg (est)		5
Noblo, Octave Oil Co		10
Batten, Dale Bros		8
Hetzler, Reineman & Lecky		dry
Lemier, Armstrong, Boyd & Lee		dry
Tract 47, Fisher Bros		10
Allison, Fisher Bros		10
Norway Tract, McCalmont		8
Karns, J B Smithman		gas
McCalmont, McCalmont		5
Diamond, Smithman No 1 (est)		8
McCormick, Dale & Stepenson No 4		2
Kaufman, Kaufman & Keegler		5
" Judd & Geiser		5
Hasson, Hasson		5
Hughes, Beson		5
Porter, Porter		3
Crawford, Hoffman & Co		40
Balliot, W T Baum		12
East Sandy Creek, Jack Bros & Harley		dry
McCullagh, Porterfield & McComb		10
Seigal, Jamison & Thomas		8
Robinson, Maxwell & Rowley (est)		10

Wells completed	24
Production	179
Dry and gas	4

Clarion.

Cogley Run.

Shippen, Patterson & Leedom No 1	3
Will Miller, Kahl Bros	dry
Etzel, Wesley Chambers	5
Gibbs, Ashland Oil Co No 2	10
" " No 4	30
" " No 5	30
Rickenbrode, " No 2	20
Kahl, Lewis & Co (est)	5
Struthman, Crawford & Brother No 2	8
" " No 3	15
" Roess Bros No 1	10
Fisher, J B Smithman No 2	70
" " No 3	30
Smithman, " No 4	30
" " No 5	35
Frederick, Booth & White No 2	10
Berlin, Patterson & Leedom No 2	50
" " No 3	50
Shorts P H Judd & Co	15
Deitrick, Yonkers & Co No 2 (est)	10
Fisher, Staley & Deitrick	30
M P Hess, Koch Bros	100
" Gillespie & Peters Bros	40
Young, Urquhart & Lavens No 6	50
" Crawford & Brother No 3	30
" Young & Stover	5
" Roess Bros No 2	30
" " No 3	25
" " No 4	15
" Cogley Oil Co No 5	40
" " No 6	30
" McClellan & Co No 1	30
" " No 2	20
" McIntyre & Woods No 2	35
" Staley & McDonald No 6	40
Rapp, Austin & Bartley	dry
Wagner, Jacob Hahn	dry

Wells completed	37
Production	956
Dry	3

Butler and Armstrong.

Martinsburg.

John Kelley, Jordan & Co	10
Wm Storey, Beatty & Bovard	10
Turner, McKee & Co	25
Archibald Kelly, Hooks & Co No 5	10
H Daubenspeck, Short, Butler & Duff	75
Black, Devitt & Co	10
Kelley & Kennedy, W J McKee No 1	10

St. Joe.

Muenster, Phillips Bros No 8	5
Mrs C Witt, McGuire & Co	25
O'Donnell, Showalter Bros	dry
Brownfield, W L Smith & Co	12
Sanderson, Bowers Bros	8
McCray, Hunter & Cummings (est)	8
Michael, " No 1	10
Leithold, " (est)	15
Bredin, Hite & Co	gas
Kelly, "	dry
Rider, Fleming & Co	dry
Mortimer, Hite & Co	dry

Thorn Creek.

Lavery, Stewart & Klingensmith No 1	dry
" " " No 2	dry
Troutman, Phillips Bros No 2	10
" " No 3	dry
Buhl, Assoc Producers' Co No 27	6
Mangell, Thompson & Co (est)	25
" K H McBride & Co No 2 (est)	5
" " No 4 (est)	5
Lavery, Markham & Co No 3	10
Hartman, " No 1	15
" Boden & Co No 2	15
" " No 3	dry
McLaughlin, Bennett & Co No 1	15
Noel, H H Stow, No 3	12
Wallace, White, Boyd & Co	45

Wells completed	34
Production	386
Dry	9

DRILLING WELLS,

RIGS UP AND BUILDING JULY 31, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
3,	Coyle (old)	rig
4,	H Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (old)	rig
12,	" No 10 (old)	rig
50,	Union Oil Co No 8, (old)	rig
L Norton farm,	A J Applebee No 3 (old)	rig
1,	Applebee Bros No 6	sand
1,	" No 7	rig
1,	Piekering & Smith	rig
2,	Coast Oil Co No 35	300
2,	" No 36	rig bldg

New rigs 3
Old rigs 7
Drilling 2
Total 12

Alma.

23,	Vanee & Horton (old)	3 rigs
24,	New Milford Oil Co (old)	2 rigs
24,	W F Jones (old)	rig
28,	Willetts & Elliott (old)	rig
51,	Sawyer & Co (old)	rig
55,	W P Decker No 3	sand
78,	Torry & Pirden No 3	rig
88,	Duke & Co (old)	rig
142,	Dean & Smith No 5 (old)	rig
120,	McCalmont Oil Co	drilling
120,	"	drilling
106,	Thornton & Dobbins No 4	drilling
106,	" No 5	rig bldg
106,	O'Connor & Shanley No 4	drilling
108,	Shirley & Hochstetter No 1	drilling
86,	" No 5	1100
85,	" No 2	rig
85,	Associated Producers' Co No 1	drilling
85,	" No 2	rig
22,	Duke & Norton Oil Co No 13	200
35,	John Browning No 1	50
37,	Perrin & Young, No 9	drilling
1,	Phillips Bros No 17	rig
3,	Triangle Oil Co No 16	rig bldg
86,	Finnegan & Co No 5	rig
4,	C W Scofield, No 6	rig
62,	Willing, E T Johnson No 2	rig

New rigs 9
Old rigs 10
Drilling 11
Total 30

Wirt.

14,	Lester & Co (old)	rig
52,	Allegany Gas Co (old)	rig
48,	Hatch & Phillips No 1	drilling
48,	" No 2	rig bldg
48,	Love & Co No 1	800
48,	Collins & Leonard No 1	400
52,	(Burdick farm) Wilson Bros & Ackerly No 5	600
52,	(Burdick farm) Wilson Bros & Ackerly No 6	rig
52,	(Burdick farm) Wilson Bros & Ackerly No 7	rig bldg
61,	(I Jordan farm) Lester, Jordan & Co No 3	500
61	(I Jordan farm) Lester, Jordan & Co No 4	rig bldg
34,	J S. Patterson No 2 (old)	rig
48,	Nile Oil Co No 4	rig
48,	R W Evans No 1	rig bldg
48,	Higgins & McQueen No 1	rig
63,	(Hyde farm) Ackerly, Barton & Co No 1	drilling

New rigs 7
Old rigs 3
Drilling 6
Total 16

Bolivar.

4,	(Cole tract) Matson & Thompson No 1	drilling
7	Coast Oil Co No 33	drilling
7,	" No 44	sand
7,	W & J Duke No 19	sand
7	" No 20	rig bldg
8,	Dewees & Donnell	drilling
8,	Anderson Bros & Bryson No 4	drilling
8,	" No 5	drilling
15,	Sawyer & Co (old)	rig
23,	F C Streeter & Co No 7	50
23,	Irwin & Morgan No 5	50
30,	Fritz & Lowry No 8 (old)	rig
30,	" No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
57,	A J Thompson	drilling
45,	John Knox & Co	drilling
63,	Johnson & Northrop No 14	200

New rigs 1
Old rigs 4
Drilling 12
Total 17

Clarksville.

9,	Henston & Breeht No 4 (old)	rig
9,	Merritt (old)	rig
20,	Ackerly & Samuels No 3	sand
20,	" No 4	drilling
20,	" No 5	rig
21	(Holmes farm) Aekerly & Samuels No 1	drilling
10,	Whipple Bros No 11	rig
10,	Ross, Madison & Wasson	rig
20,	Love, Penzer & Patterson No 3	200
20,	Lord & Whitnall No 1	rig
28,	Plummer, Wood & Co No 1	rig
28,	Penny & Co No 1	300
28,	Ash & Warner No 1	200
28,	Coast & Finnegan No 1	rig bldg
60,	(C Jordan farm) Natl Transit Co No 5 (for gas)	rig bldg
5,	Ackerly, Barton & Co No 1	drilling
14.	Ackerly & O'Neill	50
13,	Bronson, Sharp & Ackerly No 1	rig bldg
13,	Ackerly, Barton & Co No 2	drilling
13,	" No 3	rig bldg

New rigs 9
Old rigs 2
Drilling 9
Total 20

Genesee.

8,	I Willetts (to the top of sand)	drilling
14,	Merwin (old)	rig
21,	Empire Gas Co (old)	rig
22,	I Willetts No 14 (old)	rig
22,	" No 15 (old)	rig
22,	" No 16 (old)	rig
22,	" No 17 (old)	rig
22,	" No 18 (old)	rig
22,	" No 19 (old)	rig
23,	Hughes & Coughlin (old)	rig
23,	Emery Oil Co No 16 (old)	rig
23,	" No 17 (old)	rig
Champlain.	Emery Oil Co No 8 (old)	rig
29,	William Cranston (old)	rig
38,	S E Young (old)	rig
38,	Empire Gas Co (old)	rig
14,	(Bliss farm) C W Scofield No 12	100

New rigs 0
Old rigs and shut down 16
Drilling 1
Total 17

Bradford Field.

East and West Branches.

Paton, McClure & Co (old)		rig
Clark, McCray Bros (old)		rig
Willis,	do (producing)	550
Glass, Barnsdall Bros (old)		rig
Blair, J J Carter No 24		drilling
" " No 25		rig bldg
Seward, Kemp & Laney		drilling
Pierce farm, Sterrett & Roberts		rig
Railroad Y, J H Van Wormer		rig
Dent, P C L & P Co No 64 (old)		rig
" " No 65 (old)		rig
Paul, James Amm & Co No 5 (old)		rig
Wilson, West Branch Oil Co No 11		drilling
Cary, W H Duncan No 4 (old)		rig
Mack, Fisher Bros No 19 (old)		rig
Hinchey, McMurray Bros No 6 (old)		rig
Mack, Columbia Oil Co (old)		rig
Stinson, Asher Brown No 12		drilling
Whittaker, Frank Davis No 3 (old)		rig
Clark, Rolfe Bros No 27 (old)		rig
Dent, Whitney & Wheeler No 40 (old)		rig
Rutherford, J T Jones No 41		800
" " No 42		800
" " No 43		rig
" " No 44		rig bldg
Moody, A K Darrow		drilling
Timbuctoo, P W Roth No 5		400
" Amm & Co No 61		200
" lot 197, R J Straight No 6		rig bldg
Tuna't Coal Lands, Waugh & Porter No 5		rig bldg
Warrant 2258, VanVleck & Mitchell No 33		rig
" 2268, R J Straight No 14		260
" 2268, " No 15		rig
Bingham, Emery Oil Co No 18		1200
Dent, " No 25		rig

Quintuple.

25,	O H Strong (old)	rig
44,	J W Humphrey (old)	rig
220,	Clark, Stearns & Co (old)	rig
260,	E T Howes (old)	rig
—,	Camp & Zane No 12	700
—,	" No 13	rig
286,	Hunter & Jennings No 4	rig
105.	Smith, Seamen & Co No 2	rig

New rigs 13
Old rigs and shut down 18
Drilling 12
Total 43

Kendall Creek.

Melvin, P C L & P Co No 85 (old)		rig
" " No 86 (old)		rig
" " No 87 (old)		rig
Borden, Urquhart & Lavens (old)		rig
Morton, Dan Clark No 3 (old)		rig
" " No 4 (old)		rig
Willets, I Willets (old)		rig
Fisher, Larabee & Wheedon No 7		drilling
Hazelwood, John P Zane No 4		800
M & D Pur, McKevett & Dickey No 11		400
Dunham, Williams & Kilbury No 8		700
Tram Hollow, Miles		rig bldg

New rigs 1
Old rigs 7
Drilling 4
Total 12

Foster Brook.

E T Co, Boyne, Penny & Coleman No 10		800
" Utter & Co (old)		rig
C B & H, Watson Oil Co No 36		100
" " No 37		rig bldg
" C Wilder		drilling
" Juter & Yager (old)		rig
E T Co, O A Childs & Co No 18		rig
C B & H, lot 45, W W White No 9		rig bldg
" " R Y Mitchell No 11		400
" " J S Patterson No 6		300
" " Page & Co		drilling

New rigs 3
Old rigs and shut down 2
Drilling 6
Total 11

Four Mile.

Van Campen, Wm M Brown (old)		rig
" Merrill & Perrin (old)		rig
" Wm Doe No 8		sand
Waters, Griffin & Howard No 2 (old)		rig
C B & H, James Smith (old)		rig
Stevens, Burns		drilling

New rigs 0
Old rigs 4
Drilling 2
Total 6

Indian Creek.

Barse, Union Oil Co No 36		500
North Branch, J D Downing & Co (old)		2 rigs
Hamlin, Miller & Odell No 4 (old)		rig
Dodge, Shear Bros No 11		200
Weston, J L McKinney & Co No 5		rig
Barse, Reeves & Bussell		rig
Morse, Morse & Brown (old)		rig
Miles Loop, Union Oil Co No 25 (old)		rig
Keating, Forest Oil Co No 50		1400
Hamlin, " No 34		rig bldg
Loop, Manhattan Oil Co		rig

New rigs 4
Old rigs 5
Drilling 3
Total 12

Cole Creek.

Rew, Capt E Frawley		drilling
Warrant 2263, Union Oil Co No 6 (old)		rig
" 2263, " No 7 (old)		rig
Bingham, lot 495, Union Oil Co No 4		1760
" lot 536, " No 31 (old)		rig
" lot 536, " No 32		300
" lot 495, " No 3 (old)		rig
" lot 548, " No 35		200
" lot 535, " No 33		300
" lot 531, " No 22		500
" lot 573, " No 23 (old)		rig
" lot 566, Assd Producers Co No 46		1000
" lot 584, " No 48		500
" lot 585, " No 52		rig
" lot 591, T J Melvin No 9		drilling
" lot 538, C P Byron No 2		300
" lot 547, " No 1		rig
" lot 614, Rose & McLeod No 8		50
" lot 585, Jno McKeown No 1		300
" lot 585, " No 2		rig bldg
Emerson, John Gilbert		rig
Marvin Creek, Unknown		drilling

New rigs 4
Old rigs 5
Drilling 13
Total 22

Kinzua.

Warrant 3084 Union Oil Co No 59 400
" 2243 Emery Oil Co No 41 .. 400
Niles tract, Chapin & Co No 7 (old) .. rig
Lot 137, P T & W C Kennedy ..... rig

New rigs 1
Old rigs 1
Drilling 2
Total 4

Warren and Forest.

Glade and Other Towns.

Kinzua Village, Marsh, T G Phillips No 2 sand
" " " No 3 rig
" " Dr Van Scoy rig
" " Phillips & Fogel rig
" " Collins & Co rig bldg
" Whitman Island,
" Nesmith & Jamison rig bldg
" Rollin, Borchert & Smith 300
" Willard White No 2 .... rig
Wardwell, Benedict & Robinson No 21 200
" " " No 22 rig
" (Island No 2) Coggswell, Pratt & Co sand
Cobham, ——, Union Oil Co No 25 .. sand
Irvine, Brown Bros No 7 200
" " No 8 .... rig bldg
Struthers, Fred Hayes No 3 300
Cemetery lands, S A Logan No 3 400
" E B Eldred No 1 .. rig
James Roy, James Roy No 20 ..... sand
Hook, Mac Nesmith .. .. rig
McWilliams, Picket & Stone No 10 .. sand
Irvine, T J Melvin No 6 ..... rig
Wm Scott, Hackett & Shirley ..... rig
Rogers, Barnsdall Bros No 14 (old) .. rig
" " No 15 (old) .. rig

New rigs 12
Old rigs 2
Drilling 10
Total 24

Clarendon.

35, Hazeltine & Bell No 6 ..... rig
35, J Smith & Son No 4 ..... rig
51, D Beatty & Son No 36 (old) ..... rig
78, " (old) ..... 2 rigs
35 and 53, Thompson & Collins No 8 sand
" " No 10 600
" " No 11 rig
" " No 12 rig
53 Union Oil Co No 27 ..... sand
196, D Beatty & Son No 8 ..... drilling
496, Wm O Neil No 3 ..... rig
497, Porter & Topper No 5 100
499, E O'Donnell No 5 ..... drilling
465, Wm Pagett No 4 ..... rig
80, Thayer & Crosby No 9 200
80, " No 10 ..... rig
80, Johnson Irvine 100
107, W B Roberts & Son No 15 ..... rig
108 C H Filkins (old) ..... rig
108 Thos Hackett No 2 ..... sand
558 Goal Bros No 13 ..... drilling
558 " No 14 ..... rig
558 " No 15 ..... rig
558, Tait & Patterson No 39 ..... rig
526, Keatley Bros No 10 200
527 F H Rockwell & Co No 14 500
557, Town Bros No 6 100
557, Charles Duffield No 2 200
576, Dr Heath No 2 ..... rig
609, H G Lapham No 1 ..... rig bldg
592 Clark, Foster & Co No 4 ..... rig

New rigs 14
Old rigs 4
Drilling 14
Total 32

Tiona.

83, Booth Bros & Co No 1 ..... rig bldg
59, J L & J C McKinney (shut down) sand
103, " No 2 ..... drilling
103, " No 6 ..... drilling
103, " No 11 ..... drilling
103, " No 15 ..... sand
103, " ..... rig
104, " No 5 ..... drilling
165, " No 9 ..... rig
165, " No 10 ..... rig bldg
82, " No 1 ..... rig
82, " No 2 ..... rig bldg
104, R R Armor No 4 ..... sand
104, " No 5 ..... rig bldg
109, O'Donnell, Hill & Co No 3 ..... sand
109, J R Kuhn & Co No 9 ..... drilling
165, Whitehill & Co No 11 ..... rig
164, Hill & Powell No 5 ..... rig bldg
200, Bovee & Duck No 3 ..... drilling
200, " No 4 ..... rig
200, " No 5 ..... rig bldg
200, Wesley Chambers No 5 ..... rig
201, L H Best No 5 300
201, " No 6 ..... rig bldg
202, Mandell Oil Co No 3 ..... drilling
202, " No 4 ..... rig
203, J H Markham 100
204, W J Wood & Co No 8 1000
204, " No 9 ..... rig
204, Booth, Boyaird & Seyfang No 14 800
205, Bright & Co No 2 200
205, O'Neill & Co No 2 ..... rig
205, (Farnsworth) E O Emerson No 10 100
205, " " No 11 rig bldg
240, (Tidewater) " No 3. 300
205, H B Beatty & Co No 14 ..... drilling
2 5, " ..... rig bldg
240, Cochran Bros No 4 ..... drilling
243, " No 3 ..... rig
241, F W Winger No 42 400
241, L Kraeer & Co No 41 ..... sand
241, " No 42 ..... drilling
241, " No 13 ..... rig
244, " No 4 500
282, " No 1 600
281, Watson & Mitchell No 1 100
281, Hackett & Shirley ..... rig

New rigs 22
Old rigs 1
Drilling 25
Total 48

Cooper District.

401, Anchor Oil Co (old) ..... rig
321, Murphy & Ray ..... sand
408, McCalmont Oil Co No 20 ..... sand
408, " No 21 ..... drilling
408, " No 22 ..... rig
407, Shank & Stewart No 7 ..... rig
Cooper, Campbell, Morck & Co No 1 rig

New rigs 3
Old rigs 1
Drilling 3
Total 7

Balltown.

3194, Porcupine Oil Co., No. 2J (old) rig
3195, Proper Reserve Oil Co No 8 .. 100
3195, (Crissman) N F Clark No 2 600
3195, (Stone " No 3 ..... sand
4821, Balltown Oil Co No 23 4000
1821, " No 24 (old) ..... rig
4821, " No 25 (old) ..... rig
4792, Howe Oil Co No 17 600
4792, " No 18 (old) ..... rig
5215, May, Kelley & Grandin No 35 .. 200

New rigs 0
Old rigs 4
Drilling 6
Total 10

Miscellaneous.

Shamburg, Forest county, Dr Shamburg (old) ..... rig
" " Dr. Shamburg ... drilling
Forest, 3561, W B Roberts & Son No 2 drilling
" 5214, Goff & Co 200
Deerfield, 164, Beardslee & Co 600
Forest c'nty, 3198, Capt Haight & Co 1000
Warren county, 741, Unknown ..... rig

New rigs 1
Old rigs 4
Drilling 4
Total 6

Lower Country.

Venango.

Gordon, I Reineman ..... rig
Buzzy, Flynn & Co ..... rig
Gormley, Richardson & Hughes ..... rig
Briery, " ..... rig
Young, Lee & Co ..... sand
Batten, Dale & Co ..... rig
Siverly, Shinglemacher & Co 400
Lovell, Anchor Oil Co (old) ..... rig
Morrow, " " ..... rig
McCalmont, S P McCalmont ..... drilling
Button, Orr & Son ..... rig
Lee Heaton, Roess Bros Mo 8 100
Wolf, Wolf & Kugler No 6 100
McBride, Smith & Co ..... rig bldg
Noble, Octave Oil Co ..... rig bldg
Sprinz Creek, Milton, Stewart & Co 300
Gates, Fisher Oil Co No 3 ..... rig
Sands, " No 1 600
McPherson, Oil C'y Fuel Sup (for gas) 400
Meher, " " (for gas) rig
Wm Crary, " " (for gas) rig
Mt Hope, P Stroup, Galbraith & Shepherd 200
Mt Hope, Jones, " " rig
Philadelphia tract, Shultz & Co ..... rig
Widow Karns, J B Smithman (for gas) 100
Johns, McPherson & Co 1500
Haney, Goetell ..... drilling
McCormick, Phinney No 2 200
McCalmont, McCalmont 300
Diamond, J B Smithman No 2 100
Diamond, J B Smithman, No 3 ..... rig
" Darr & Manning ..... rig
Henry Neeley, Jack Bros & Harley. rig bldg
Sarena, Hovis & Co 600
Plummer, Kerr 900
Cross, Hovis ..... rig
Dougherty, Hoffman & Co 200
Hovis, Gilbert & Co 800
Kennerdel, Riddle & Co 300
Berringer, Berringer Bros ..... rig
Crawford, Morgan & Co ..... rig
Plummer, Henderson ..... rig

Vicinity Emlenton.

McCullough, Messer & Shepherd 600
Thos Ritchie, Ritchie Heirs 300
A Middleton, M R Martin 1000
Habtemae, Haldeman & Gardner ... 300
McClintock, Peter Curry ..... rig bldg
Dr A W Crawford, Mackin 200
Eli Osman, Porterfield & McCombs. 400
Allen, Jamieson & Thomas ..... rig bldg
Sloan, Sherry & McKnight 700
David Crawford, Wilkins & Messner rig bldg
Cross, S W Phillips 500
Sloan, Stevenson & Co 600
D N Crawford, A A Hopkins 600
J Sloan, Bailey & Co ..... rig
Bailey, Cooper & Co ..... rig bldg
David Crawford, Daniels, Schell & Co 100
Grant, J P Crawford ..... rig
Porterfield, A A Hopkins ..... rig bldg

New rigs 28
Old rigs 2
Drilling 32
Total 62

Clarion.—Cogley Run.

Kinnemuth, McIntyre & Hogan ..... sand
Gibbs, Ashland Oil Co No 6 ..... sand
" " No 7 ..... rig
" " No 8 ..... rig
Rickenbrode, " No 3 900
Strutman, Crawford & Bro No 4 700
" " No 5 300
" Roess Bros No 2 1000
" H C Zeigler No 1 700
" " No 2 ..... rig
Bacons, Crawford & Co ..... sand
Fisher, Cogley Oil Co No 7 800
" " No 9 ..... rig bldg
" J B Smithman No 4 300
Frederick, Booth & White No 3 100
Berlin, Patterson & Leedom No 4 ..... sand
" " No 5 ..... rig bldg
" " No 6 ..... rig bldg
Shorts, P H Judd & Co No 2 300
" " No 3 ..... rig
Deitrich, Yonkers & Co No 3 ..... rig
" " No 4 ..... rig bldg
Fern, Booth, White & Gifford No 1 .. 600
" " No 2 .. rig
Fisher, Staley & Deitrich No 2 ..... rig bldg
M P Hess, Koch No 2 400
" " No 3 ..... rig bldg
" " No 4 ..... rig bldg
Young, Urquhart & Lavens No 7 .... sand
" " No 8 .... rig
" Crawford & Bros No 4 600
" Hale, Moriarty & Co No 2 500
" " No 3 ..... rig
" Young & Stover No 2 600
" " No 3 ..... rig
" McIntyre & Woods No 3 800
" " No 4 ..... rig
" Staley & McDonald No 7 .... rig bldg
Shippen, Fertig & Henne ..... sand
Fowls, McCalmont Oil Co No 1 200
" " No 2 ..... rig
" " No 3 ..... rig bldg
Ben Hess, J B Smithman No 1 600
" " No 2 ..... rig bldg
Barber, Barber & Co No 2 200
John Deitrich, Koch & Co No 1 ..... rig
" Staley & McDonald No 4 200
" " No 2 rig bldg
" Holt & Morrison No 1 ... 300
Long, I Heasley 300
M P Hess, Urquhart & Lavens No 1. 300
" " No 2. rig
" " No 3. rig
W H Hand, " 300
Hale's Mills, Fertig & Henne 700
Freyburgh, Mahle Bros ..... rig bldg
Heeter, Heeter Bros 500
" Thos Hulings 200
" M E Hess No 2 200
Frederick, Cogley Oil Co No 1 100
Fye, Phipps, Maxwell & Co ..... rig
Gillingham, Crawford & Doyle ..... rig
" ..... rig bldg
W L Hess, Koch Bros ..... rig
Kinnemuth, Moore & Co ..... rig bldg
Lebrum, " 600
Beals, Beals, Hunter & Co ..... sand
Mechlen, Becker & Dunn No 1 500
Scheffler, Nicholson & Co ..... rig
Mong, Kane & Co ..... rig bldg
Black, B Black 250
Baker, Irwin 300
Sheets, Hahn & Co ..... rig bldg
Deer Creek, Whitehill & Co 400

Panton, Panton (old)	rig
New rigs	34
Old rigs	1
Wells drilling	40
Total	75

Butler and Armstrong.

W L Brown, Nutting, Morrison & Co	1000
Brownfield, W L Smith & Co	100
McClelland, A Crittenden (fishing)	300
Jennings, Jennings No 4	700
Guthrie, Ireland & Hughes	100
Eli Reep, Reep & Sutton	1100
Storey, Hazelwood Oil Co	200
Kesselman, Bott & Story (old)	rig
Rogers, James Redd & Co	100
" Boyd & Co	200
Nolan, Dale, Larkin & Bruce	100
Pfeister, Phillips Bros	800
Mrs Richards, Hunter & Cummings	rig
Mrs Ott, Westerman	500
Reep, Westerman	500
Renfrew, Ireland & Hughes	300
West Liberty, Phillips Bros	300
Douthett, Straight Run Oil Co	950
J Pontius, Lyneh & Co	400
Wise, Frederick & Campbell	600
Mars, Crawford & Co	rig
Mills, Munhall & Co	1400
Smith, J B Case	rig
Marks, Fisher Oil Co	500
Muddy Creek, Fisher Oil Co	500
" "	160
Centreville, "	drilling
Maharg, Barnum & Co	1400
Buhl, Clark & Foster	1300
Cochran, Biekett (fishing)	1500
Fry, Fry & O'Donell	600
Sarver's Station, Kiskadden	1500
Bredin, Boyd & Armstrong	500
Harbison, Hatch & Co (old)	rig
Denny, Hatch & Co (old)	rig
Helmbold, Leidecker	1200
Parnassns, Boyd & Co	1340
McCann, Brown & Marshall (fishing)	450
Patterson, Phillips Bros No 1	1500
Byerly, "	800

St. Joe,

Muenster, Phillips Bros No 7 (fishing)	sand
Crouse, " No 4	300
Martin, Ireland & Hughes	200
Shultz, Rigney & Co	rig
Oswald, Bredin, Lappe & Co	200
Kesselman, Bott & Story (old)	rig
Sales, McGuire & Co	1350

Martinsburg.

John Kelly, Jordan & Co	300
D P Kelly, Brawley Bros	400
Bartley, Brackney Bros	700
Story, Brown & Stanton	800
Abner Kelley, Hooks & Black	900
" W A Kelley & Co No 1	1300
" " No 2	rig bldg
" McKissock, Meldren & Adams	rig bldg
Cannon, Edwards & Co	rig
Thos Kelly, Manifold, Conley & Co No 2	300
Thos Kelly, Manifold, Conley & Co No 3	rig
Rimer, Bradstreet & Hummison	200
H Daubenspeck, Sheidemantle & Adams	rig
" Dougherty	500
Thos Smith, Harrington	drilling
Thompson, Tash	600
H Daubenspeck, Conners & Fishel	rig
Campbell, Campbell & Co	rig bldg
Bartley, Walker & Crouse	800
John Kelly, W A Kelly & Black	700
" McNeese & Smith	200
M P Black, W J McKee (old)	rig

Thorn Creek.

McLaughlin, Clark & Co No 3	1700
Henderson, Johnson & Co No 3 (fishg)	1000
Noel, H H Stow No 2	150
" " No 4	1650
Wallace, Boyd, White & McTamany	rig bldg
McCormiek, Phillips No 2	rig bldg
Renfrew, Christie	400
Wallace, Fisher Oil Co No 20	rig
" " No 21	rig bldg
" Shiedemantle	rig bldg
Kennedy, Assoc'd Producers Co No 17	sand
" " No 7	sand
Mangell, Greenlee & McIntyre (fishg)	sand
Trouman, Phlllips No 1	600
New rigs	17
Old rigs	6
Drilling	67
Total	90

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	July, 1885. Wells.	Prod'n.	Dry.	June, 1885. Wells.	Prod'n.	Dry.
Scio	5	31	0	3	22	0
Alma	9	44	0	12	53	1
Wirt	6	36	0	6	29	0
Bolivar	5	31	0	4	35	0
Clarksville	4	20	1	4	40	0
Genesee	0	0	0	3	15	0
Miscellaneous	0	0	0	0	--	--
Total	29	162	1	32	194	1

BRADFORD FIELD.

Division of Field.	July, 1885. Wells.	Prod'n.	Dry.	June, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	5	53	0	9	75	0
Kendall Creek	1	5	0	0	0	0
Foster Brook	4	24	0	3	20	0
Four Mile	2	10	0	1	8	0
Indian & Meeks Creeks	5	24	0	5	33	0
Cole Creek	18	338	1	16	375	0
Kinzua	2	8	0	7	37	2
Total	37	462	1	41	548	2

WARREN AND FOREST.

District.	July, 1885. Wells.	Prod'n.	Dry.	June, 1885. Wells.	Prod'n.	Dry.
Glade	13	94	4	17	118	3
Clarendon	26	154	0	19	120	0
Tiona	30	184	0	26	172	0
Cooper	4	15	2	5	40	0
Balltown	2	80	0	4	190	0
Miscellaneous	6	17	3	3	0	3
Total	81	544	9	74	640	6

LOWER COUNTRY.

District.	July, 1885. Wells.	Prod'n.	Dry.	June, 1885. Wells.	Prod'n.	Dry.
Venango	24	179	4	24	92	10
Clarion	37	956	3	22	531	3
Butler and Armstrong	34	386	9	56	1177	13
Total	95	1521	16	102	1800	26

GRAND SUMMARY.

Distriet.	July, 1885. Wells.	Prod'n.	Dry.	June, 1885. Wells.	Prod'n.	Dry.
Allegany	29	162	1	32	194	1
Bradford	37	462	1	41	548	2
Warren and Forest	81	544	9	74	640	6
Lower Field	95	1521	16	102	1800	26
July Total	242	2689	27	249	3182	35
June Total	249	3182	35			
Decrease	7	493	8			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	June 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	3	7	2	12	1	8	4	13
Alma	9	10	11	30	4	13	10	27
Wirt	7	3	6	16	7	3	4	14
Bolivar	1	4	12	17	3	6	7	16
Clarksville	9	2	9	20	4	2	6	12
Genesee	0	16	1	17	1	16	0	17
Miscellaneous	0	0	0	0	0	0	0	0
Total	29	42	41	112	20	48	31	99

BRADFORD FIELD.

Division of Field.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	June 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches	13	18	12	43	2	19	4	25
Kendall Creek	1	7	4	12	0	7	1	8
Foster Brook	3	2	6	11	3	7	3	13
Four Mile	0	4	2	6	0	4	3	7
Indian Creek	4	5	3	12	2	8	5	15
Cole Creek	4	5	13	22	10	7	16	33
Kinzua	1	1	2	4	4	0	4	8
Miscellaneous	0	0	0	0	0	0	0	0
Total	26	42	42	110	21	52	36	109

WARREN AND FOREST.

Division of Field.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	June 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	12	2	10	24	6	2	11	19
Clarendon	14	4	14	32	15	6	17	38
Tiona	22	1	25	48	20	1	20	41
Cooper	3	1	3	7	5	1	2	8
Balltown	0	4	6	10	1	6	1	8
Miscellaneous	1	1	4	6	1	0	7	8
Total	52	13	62	127	48	16	58	122

LOWER COUNTRY.

Division of Field.	JULY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Venango	28	2	32	62	33	0	19	52
Clarion	34	1	40	75	27	4	37	68
Butler & Arm trong	17	6	67	90	24	8	53	85
Total	79	9	139	227	81	12	109	205

GRAND SUMMARY.

Field.	JULY 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	JUNE 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	29	42	41	112	20	48	31	99
Bradford	26	42	42	110	21	52	36	109
Warren and Forest	52	13	62	127	48	16	58	122
Low r Country	79	9	139	227	84	12	109	205
Total July 31	186	106	284	576	173	128	234	535
Total June 30	173	128	234	535				
Difference	13	22	50	41				

Crude Market for July.

The strength manifested by the market at the close of June was well maintained through the month of July. Opening at 92 cents, it made but one drop to 90 cents and the fraction below, while the dollar point was reached and passed on seven different days during the month.

The statistical position of crude remains unchanged by any developments recorded in July. The output of the older fields has been sustained by the use of nitro-glycerine, but the daily runs from wells are below the daily demands, as shown by the shipments. The Cogley field in Clarion county is showing some remarkably good wells, and indications point to a considerable area of moderate territory. The wells are not of the gusher stripe, and as all of them require the use of the sucker-rod to bring their output to the surface, they cannot be used by the bear element in checking the legitimate advance that has been inaugurated. There is evident a lack of confidence among some of the holders of long oil that springs from the fear of being caught again by some frontier wild-cat of huge proportions. Cherry Grove, Balltown, Cooper and Thorn Creek, all bear witness that there are other white sand pools yet to be opened up in the southwest; but each dusty frontier venture marks the lessening chances of their discovery.

The highest point of the month was reached on the 6th, when 103 was paid for oil in the New York Exchange. The lowest was 89 7-8, which was touched on the 2nd of the month. July closed with 98 1-4 bid at Bradford and Pittsburgh, and 98 3-8 at New York and Oil City.

The range of prices for July was 13 1-8 cents as compared with 18 cents in June, 4 3-4 cents in May, 4 3-8 cents in April and 8 cents in March. The average price for the month on the floor of the Bradford Exchange was 96 3-8 against 82 1-4 in June, 79 5-8 in May, 78 7-8 in April and 80 3-8 cents in March. The average price for July, one year ago, was 68 1-2 cents.

THE CLEARANCES.

	July. Barrels.	June. Barrels.
Bradford Oil Exchange	116,002,000	72,862,000
Oil City "	184,416,000	103,742,000
New York Consolidated Exchange	391,655,000	269,510,000
Pittsburgh Petroleum Exchange	114,484,000	63,920,000
Total	806,557,000	510,034.000

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

MONTH.	1879	1880	1881	1882	1883	1884	1885
January	.....	110 1-8	95	83	92¾	111½	70¾
February	.....	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅛	80⅜
April	78⅜	76⅜	84⅛	78¼	92⅜	94	78⅞
May	73½	80¼	81½	70	99⅜	85¼	79⅜
June	68¾	100¼	81	54½	117¼	68¾	82¼
July	69⅞	101¼	76⅛	57⅝	108	63½	96⅜
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	
September	69¼	95½	92¼	71½	112½	78	
October	88⅛	96¾	92¾	93⅜	111¼	71	
November	105⅞	91¼	82⅓	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114½	74⅜	

The Refined Market.

The firmness in the crude market created a momentary demand for refined, which of late has slackened off to a considerable extent. European buyers are waiting for another wild-cat field to drive crude back from the strong position it now occupies. Refiners are 1-8 cents higher in their demands at the close than at the beginning of the month, and were they disposed to concede an 1-8 or a 1-4 below the official quotations, might transact considerable business.

Refined in cases has been in fair demand, with small trades at 9 3-8 to 10 5-8 cents, according to brand. The shipments of this class of goods to the east, for the first seven months of the present year, are 656,774 cases in excess of last year, but July, '85, shows a falling off of 234,620 cases when compared with July, '84.

Domestic oils have been advanced. Quotations are 8 1-2a9c. for 110 test standard white, 9 1-4a 9 3-4c. for 120 test, 9 1-2a9 3-4c. for 130 test, 9 1-2c. for N Y. State test, 10 3-4c. for 150 test, and 12a13c. for 300 test.

Mr. Geo. H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the

East, up to the first of August, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai, previously reported	1,022,793	418,108
" July	168,550	
Hong Kong, previously reported	545,231	500,625
" " July	-------	
JAPAN—Yokohoma, previously reported	542,141	458,024
" " July	91,628	
Hiogo	497,498	297,600
Nagasaki	74,942	71,516
INDIA—Calcutta, previously reported	652,071	1,297,636
" July	132,079	
Bombay, previously reported	829,900	553,959
" July	79,454	
Kurrachee	96,263	51,505
Point de Galle	50,026	44,000
Madras	47,382	42,260
Rangoon	103,141	208,875
JAVA—Batavia	229,156	272,247
Anjier	500,277	933,375
SINGAPORE	123,692	119,153
Penang and Singapore	-------	28,909
Penang, June	191,116	115,680
Other Eastern ports	266,832	173,929
Total August 1	6,244,166	5,587,392
Total July 1	5,397,498	4,506,104
July clearances	846,668	1,081,288
Decrease as compared with July last year	234,620	

REFINED QUOTATIONS FOR JULY.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwerp.
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	8 1/16	8	8	6 5/8	7.45	18 3/4
2	8 1/16	8	8	6 5/8	7.40	18 1/4
3	8 1/4	8 1/8	8 1/8	6 5/8	7.40	18 1/4
4				6 3/8	7.40	18 1/4
5						
6	8 1/4	8 1/8	8 1/8	6 5/8	7.50	18 1/4
7	8 3/8	8 1/4	8 1/4	6 3/4	7.60	18 5/8
8	8 3/8	8 1/4	8 1/4	6 3/4	7.60	18 5/8
9	8 1/4	8 1/8	8 1/8	6 7/8	7.55	18 3/4
10	8 1/4	8 1/8	8 1/8	6 7/8	7.55	18 7/8
11	8 1/4	8 1/8	8 1/8	6 7/8	7.50	18 3/4
12						
13	8 1/4	8 1/8	8 1/8	6 3/4	7.50	18 7/8
14	8 1/8	8	8	6 7/8	7.75	18 7/8
15	8 1/8	8	8	6 7/8	7.55	18 7/8
16	8 1/8	8	8	6 7/8	7.55	18 7/8
17	8 1/8	8	8	6 7/8	7.55	18 7/8
18	8 1/8	8	8	6 3/4	7.55	18 3/4
19						
20	8 1/8	8	8	6 3/4	7.50	18 3/4
21	8 1/8	8	8	6 3/4	7.55	18 7/8
22	8 1/8	8	8	6 3/4	7.55	18 7/8
23	8 1/4	8 1/8	8 1/8	6 3/4	7.50	18 7/8
24	8 1/4	8 1/8	8 1/8	6 3/4	7.60	19
25	8 1/4	8 1/8	8 1/8	6 7/8	7.65	19 3/8
26						
27	8 1/4	8 1/8	8 1/8	6 7/8	7.65	19 3/8
28	8 1/4	8 1/8	8 1/8	6 7/8	7.65	19 3/8
29	8 1/4	8 1/8	8 1/8	6 7/8	7.65	19 3/8
30	8 1/4	8 1/8	8 1/8	6 7/8	7.65	19 3/8
31	8 1/4	8 1/8	8 1/8	6 7/8	7.65	19 3/8

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	JULY, 1885.	JUNE, 1885.
National Transit Co	1,564,538.73	1,585,081.93
Tidewater	199,607 48	198,657 34
Octave Oil Co	3,086 00	3,150.42
Charley Run	-------	-------
Shaffer Run	-------	-------
Franklin (limited)	7,198.90	8,345.84
Cranberry Pipe Line	1,645.61	1,787.92
Total	1,776,076.72	1,797,023.45
Daily average	57,292.80	59,900.78

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	JULY, 1885.	JUNE, 1885.
National Transit Co	1,780,209.57	1,818 176.28
Tidewater	174,917 72	206,856.95
Octave Oil Co	2,953.00	2,542 95
Charley Run	-------	-------
Shaffer Run	-------	-------
Franklin (limited)	2,725.88	4,933.64
Cranberry Pipe Line	-------	1,168.68
Total	1,960,806.17	2,033,678.50
Daily average shipments	63,251,81	67,892.83

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, July	5,959.01
Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	JULY 31, 1885.	JUNE 30, 1885.
National Transit Co	33,432,139.08	33,499,581.18
Tidewater	1,351,854.23	1,504,991.12
Octave Oil Co	4,069.00	5,556.35
Charley Run	3,717.00	3,717.00
Shaffer Run	30,636.32	30,636 32
Franklin (limited)	39.072 84	34,599.82
Cranberry Pipe Line	25,841.37	24,195.76
Total	34,887,329.84	35,103,277.55
Stocks decreased July		215,947.71
Stocks decreased June		356,849 49
Stocks decreasod May		565.252.48
Stocks decreased April		42,525 72
Stocks decreased March		248,900.89
Stocks decreased February, 1885		376,306.01
Stocks decreased January, 1885		179,780 27
Stocks decreased December, 1884		984,300.33
Stocks decreased November, 1884		266,552.87
Stocks decreased October, 1884		616,976.88
Stocks decreased September, 1884		345,281.52
Stocks increased August, 1884		97,092.86
Stocks increased July, 1884		323,063.12
Stocks increased June, 1884		190,320.03
Stocks increased May, 1884		322,981.75
Stocks increased April, 1884		1,945,919.83
Stocks increased March, 1884		164.711.33
Stocks increased February, 1884		206,984.61
Stocks increased January, 1884		119,365.56

	RECEIPTS.	DELIVERIES.
Daily averago, July	57,293	63,252
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,861
Daily average February,	54,976	67,667
Daily average January, 1885	53,290	58,183
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76.391
Daily average August	66,996	64,402
Daily average July	66,702	56,170
Daily average June	67,350	60,907
Daily averaee May	66.688	56,448
Daily average April	65,794	54,773
Daily average March	64,599	60,445
Daily average Febrnary	64,573	59,420
Daily average January, 1884	58,178	54,404

SUMMARY of the statements of the National Transit Co., for July and June, 1885:

	JULY. Barrels.	JUNE. Barrels.
Receipts from all sources	1,733,473.59	1,585,081 93
Deliveries	1,780,209.57	1,818,176.28
Gross stocks end of month	37,243 868.39	37,165,816.42
Sediment and surplus	3,811,729.31	3,666,235.24
Total liabilities end of month	33,432,139.08	33,499,581.18
Outstanding acceptances	27,562,638.85	27,793,381,72
Credit balances	5,869,500.23	5,706,199 46

The above "Receipts from all sources" for July were made up as follows:

Runs from wells	1,564,538.73
Received in iron tanks	168,934.86

SUMMARY of the Statement of the Tidewater Pipe Co., Limited, for July, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of July		1,504,991.12
Quantity of crude petroleum at close of July	1,488,888.74	
Less sediment and surplus	137,034.51	
		1,351,854.23
Receipts during July		199,607.48
Deliveries during July—to refiners	174,917.72	
" " " to other parties	168,934.86	
		343,852.58
Outstanding certificates, accepted orders, etc.		787,000.00
Credit balances		564,854.23
Total liabilities July 31, 1885		1,351,854.23

JUNE SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of June		1,514,910.68
Quantity of crude petroleum at close of June	1,633,386.33	
Less sediment and surplus	128,395 21	
		1,504,991.12
Receipts during June		198,657.34
Deliveries during June—to refiners	206,856.95	
" " " to other parties		
		206,856.95
Outstanding certificates, accepted orders, etc.		830,000 00
Credit balances		674,991.12
Total liabilities, June 30, 1885		1,504,991.12

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO JULY 31, 1885.

1882.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge Bbls.
May	6,765	-----	------	6,765	218
June	91,102	------	------	91,102	3,035
July	268,294	------	------	268,294	8,650
August	753,752	------	------	753,752	24,317
September	690,072	------	------	690,072	23,002
October	290,246	3,712	------	293,958	9,483
November	146.587	8,810	------	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217.408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114.233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87,193	261,784	8,445
April	31,191	226,860	71,989	230,040	7,668
May	30,010	107,514	70,069	207,593	6,696
June	25,348	85,554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
September	19,590	64,648	63,453	147,691	4,923
October	13,824	56,151	55,211	125.186	4,038
November	12 689	39,065	42.025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25,469	62,262	2,224
March	11,558	26,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71,216	2,297
June	13,181	29,998	31,340	74 519	2.484
July	14,478	28,095	31,990	74,563	2,405
Total July 31, '85	3,445,001	2,346,526	1,781,185	7,572,712	6,374

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to July 31st, 1885. Cherry Grove has produced 3,445,001 barrels, Cooper 2,346,526, and Balltown 1,781,185 barrels. The daily average runs from the three fields during July were 2,405 barrels, a decrease of 79 barrels from the June figures. The daily average runs from the Cooper and Henry Mills sections for July were 906 barrels, for June 1,000, and for May 1,051 barrels.

The Balltown field has a daily average of 1,032 for July against 1,044 in June. Cherry Grove averaged 467 barrels during July, 439 in June and 343 in May.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to July 31, 1885, inclusive, has been 7,572,712 barrels, a total daily average of 6,374 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND WARDWELL.

The two new white sand fields, Baldridge and Wardwell, are numerated in the list. In the Baldridge are included the runs from the prolific Thorn Creek district. The pipe line runs from these sections since April 1st, 1884, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1,015
June	29,070	969	61,260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February	205,774	7,349	18,570	663
March	224,398	7,239	18,770	605
April	280,005	9,333	15,823	527
May	232,138	7,488	22,384	722
June	105,774	5,905	22,914	764
July	119,531	3,856	20,058	647

July Production Report.

Reports of the stocks on hand at 6,127 Bradford wells, showed an average decrease of eight-tenths barrels to the well during July.

Time.	No. Wells.	Gross Stocks.	Average per well.
August 1, 1885	6,127	303,297	49.5
July 1, 1885	6,111	307,178	50.3
Difference	16	3,881	.8

The number of wells in the Bradford field connected with the pipe lines on the 1st of August is estimated at 13,480. Estimating the entire Bradford region on the basis of eight-tenths barrels decrease, the total decrease in stocks at wells during July, was 10,784 barrels, a daily average of 348 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for July is as follows:

	Barrels.
Average Daily Pipe Line Runs	30,657
Average Daily Decrease of Stocks at Wells	348
Bradford's July Production, estimated	30,309
" June " "	29,272
Average Daily Increase	1,037

There are nine glycerine firms at work in the Bradford field, and all their men are kept busy from morning to night. The size of the shot used is rarely less than eighty quarts. The constant enlargement of the cavity in the oil-bearing rock necessitates the use of dynamite squibs for exploding the shells, and the old method of dropping a "go-devil" on the firing-head of the torpedo has been almost entirely superceded. The cans in which the nitro glycerine is transported about the field have been enlarged from six to eight quarts capacity, and each shooter's wagon carries ten cans or eighty quarts of the powerful explosive. It is estimated that over eight tons of glycerine were used in the Bradford field during the month of July.

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
August 1, 1885	1,128	40,173	35.6
July 1, 1885	1,124	42,089	37.4
Difference	4	2,116	1.8

The wells from which reports were received had an average decrease of one and eight-tenths barrels to the well. With 3,860 wells in the field on the first of August, these figures give a total decrease for the field of 6,948 barrels, or an average decrease of 224 barrels per diem. Subtracting this amount from the average daily pipe line runs, 7,363, the remainder, 7,139, will represent Allegany's daily production during July. The June average was 7,463 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The num-

ber of wells on the first of each month, with their averages, are contained in the following statement :

Field.	No. Wells July 1.	No. Wells August 1.	Average per well July 1.	Average per well August 1.
Clarendon and Tiona	162	169	38	37
Cherry Grove	22	22	54	50
Cooper District	143	144	66	63
Thorn Creek	58	60	144	120
Lower Country	82	82	59	55
Miscellaneous	147	151	113	97

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for July and June is as follows :

Field.	July. Barrels.	June. Barrels.
Bradford	30,309	29,272
Allegany	7,139	7,463
Outside Runs	19,273	21,559
Total	56,721	58,294

The above figures show a decrease in the production of 1,575 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885 :

	Bradford.		Allegany.		Outside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481	11,607	13,154	18 561	13,573	62,546	65,208
March	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65 018	69,445
June	33,753	35,279	11,108	13,499	19,977	18 330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
August	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
November	31,789	35,026	8,642	12,678	23,557	18,433	63,988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16,140	55,529	59,240
February	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,596
March	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23,067	19,162	57,649	63,452
May	27,231	33,922	7,049	11,547	21,225	19,549	55,505	65,018
June	29,272	33,753	7,463	11,108	21,559	19,977	58,294	64,838
July	30,309	34,031	7,139	11,218	19,273	24,870	56,721	66,119

The production of the Bradford field for July is 3,722 barrels a day behind the July output of 1884. Allegany falls short of the July average of last year by 4,079 barrels, and the entire region shows a decrease of 9,398 barrels per diem from the figures furnished by the production report for July, one year ago, and 6,919 barrels a day less than the estimated output of July, 1883.

THE Climax Manufacturing Co. of Corry are now furnishing the trade with a companion to their rig irons in the way of a superior sand-reel. It is made of the best material and the parts are bolted together. The improvements are covered by a patent for which application has been made.

THE Pittsburgh Oil Exchange was finally dissolved by decree of Judge Collier on the 10th of August. Upon dividing up the cash on hand, each share of stock, par value $25.00, received a dividend of $39.85. The stock of this Exchange enjoyed a great boom in 1882, when some of it changed hands at $3,500—one hundred and forty times the value of the original share.

THE first gas for domestic purposes was introduced in Sharpsburg on the 1st inst. by the Westinghouse Company, and gave entire satisfaction. The rates charged at present are estimated on the number of fires and the cost of coal. This brings the price up to about 25 cents per 1000 feet, which parties contemplating the use of the natural fuel consider altogether too high. Unless there should be a material reduction, it will no doubt be some time before the gas is in general use.

Mills Using Natural Gas at Pittsburgh.

On August 10 natural gas was introduced for the first time at the Sable Iron Works of Zug & Co., Pittsburgh, under five puddling furnaces and under a battery of boilers. The process is a new one and has been invented by the bricklayer of the work, Samuel Burton, which he has remodeled, giving entire satisfaction. Natural gas is also used at the following mills in the Smoky City, according to the *Telegraph :* Star Iron Works, Lindsay & McCutcheon ; La Belle Steel Works, Smith, Sutton & Co.; Singer, Nimick & Co.'s Steel works ; Pittsburgh Iron Works, J. Painter & Sons ; Clinton, Millvale, and Fort Pitt Rolling Mills, Graff, Bennett & Co.; Glendon Spike Works ; Dilworth, Porter & Co., Republic Rolling Mill, American Iron Works, Wayne Iron and Steel Mill, Brown & Co., Hussey, Howe & Co., Steel Works ; Park, Brother & Co., Solar Iron Works, William Clark & Co., Etna Iron and Tube Works, Spang, Chalfant & Co., at Etna; Crescent Steel Works, Miller, Metcalf, Parkin & Co., Vesuvius Iron and Nail Works, at Sharpsburg ; Spang Steel and Iron Mill, ditto, and the Polished Sheet Iron Works and National Tube Works at McKeesport. The mills still supplied with coal are : Oliver Brothers & Phillips, Pittsburgh Forge and Iron Works, Eagle Rolling Mill, Sligo Iron Works, A. M. Byers & Co., Chess, Cook & Co., Elba Iron and Bolt Works, Soho Rolling Mill, Keystone Rolling Mill, Pennsylvania Tube Works, Pennsylvania Iron Works, Kensington Rolling Mill, Sable Iron Works, Juniata Iron and Steel Mill, Linden Steel Mill, and the Manchester Steel and Iron Works. Some on this list are idle, the last-mentioned mill having been so nearly three years. Zug & Co., of the Sable Rolling Mill, will introduce natural gas in all departments as soon as experiments they are now making demonstrate the best methods of using it. Wilson, Walker & Co. are building in their mill one of the Owens gas furnaces for heating purposes, and will soon be ready to use gas. The Canonsburg Iron Co. is also erecting a new natural gas furnace for the same purpose. The La Belle Steel Works of Allegheny, which are now closed for repairs, will use natural gas instead of coal when operations are resumed Carnegie Brothers & Co. already may be said to have perfected their plant in this direction, both as to capacity and reduced cost.

THIS month's AGE is the largest edition ever issued and contains the greatest number of pages.

THE PRODUCING REGION.

ALLEGANY FIELD.

THE Clarksville section of the Allegany field shows considerable activity. The wells struck are of moderate calibre, but serve to indicate the existence of new territory that will satisfy the wants of the insatiable producer for a time. The neat little village of Clarksville is the scene of a small excitement that calls to mind in a faint degree Richburg in the palmy days. Lands have advanced in value from $10 an acre and one-eighth royalty to from $50 to $70 an acre and a quarter royalty.

During July Allegany completed 29 wells, one of which was dry. The new production is estimated at 162 barrels. On the last day of the month there were 29 new rigs, 42 old ones, and 41 drilling wells in the field. This is an increase of 9 new rigs and 10 wells over the June figures. The old rigs are decreased 6 by passing into the drilling list. The Allegany runs were 7,363 barrels a day in July, 7,680 barrels in June, and 7,467 barrels in May.

BRADFORD FIELD.

The principal feature of interest in the Bradford field is the activity that prevails in the business of cleaning out and shooting old wells. The glycerine firms are all very busy, and large quantities of the powerful explosive are burned every day. In the small towns throughout the field no men are idle who desire employment, and it is difficult to secure an experienced hand about wells, all being employed in putting the old wells in producing trim. Bradford completed 36 wells and 1 dry hole during July. The new production is placed at 462 barrels. The Hazelwood Oil Co.'s test on warrant 2253, for a connection between the Cole Creek frontier and the Kinzua pool, was a failure. On July 31 the record showed 26 new rigs, 42 old rigs, and 42 drilling wells in the Bradford field, an increase of 5 new rigs and 6 wells drilling as compared with the close of June. The pipe-line runs from the Bradford field averaged 30,657 barrels a day in July, 30,662 in June and 28,443 in May.

WARREN AND FOREST.

Operators in the Middle Field are spurred on to fresh exertions in the line of developing new territory, by the competition among refiners for the amber oil, produced by their wells. A premium of 10 cents per barrel over the price fixed for Bradford and Allegany oil by the petroleum marts of the world, is a substantial benefit which causes producers throughout Warren and Forest counties much inward satisfaction.

There were 72 productive wells and 9 dry holes finished in the Middle Field during the month of July. This is a slight increase in number over the record for June, but the July new production is 544 barrels as compared with 640 barrels in June. On the last day of July, there were 52 new rigs, 3 old rigs, and 62 wells drilling in the two counties.

At Kinzua village operators are figuring on a line northeast and southwest from the late developments. There is room for such a belt parallel with the Allegheny river, but numerous dry holes between this section and the Dew Drop pool forbid a very extended area. The Anchor Oil Co. have secured the Morrison lands, consisting of 800 acres to the northeast, on warrants 3725 and 3707, while Bayne, Fuller & Co. have been making some good investments to the southwest. No wells yet opened up in the locality have given indications of the existence of any extensive pool of oil.

At Clarendon and Tiona, the oil field is gradually being widened out in all directions. On the northern end of the development operations have been very active about Stonehill. With the exception of a narrow dividing line of dry territory the field will soon extend through to the river. Benedict & Rockwell, on the Wardwell reserve, south of the main portion of the Wardwell belt, find good wells in the Clarendon sand.

Southwest of Tiona, the eager searcher after more territory for the drill to conquer, is pushing out through lots 244, 281, 282 and 284. Kreer & Co.'s last experiment in the southeast corner of 244, is a small well. Watson & Mitchell and Haskell & Shirley are drilling on lot 284. On the northeast, McKinney, Fertig & Henne are fast perforating the available territory on lots 82, 103, 104 and 110. E. O. Emerson's experiment in the northwest corner of lot 158, has been pulled up and abandoned. Howard, Thompson & Co.'s well on 664, got about 20 feet of sand which contained neither gas nor oil. Murphy & Ray, on the northeast part of 321, found no oil at the Tiona level, but had a small showing in the Cherry Grove formation. Near Russellsburg, in Pine Grove township, Warren county, Wesley Chambers has completed a dry hole, and R. Schnur, Fred. Hue, Owen Fay and others, found a small gasser on the French farm, warrant 5542, Elk township. O'Donnell & Co. developed a duster on 5225, Limestone township, and James E. Cochran is credited with a dry hole on the McIntyre farm near West Hickory.

At Balltown Goff & Welsh's test on 5214, for a southwest extension to the field, is a failure. Better success, however, is attending operations in the northeast, and present appearances denote the addition of considerable territory in this direction. Welsh, Agnew & Proper and N. F. Clark, and the Proper Reserve Oil Co., control all the producing lands on warrant 3195, and have completed several wells of very fair productive powers. Agnew, Haight & Co. have a second test in the sand on warrant 3195, which they expect to develop into a small producer.

THE LOWER COUNTRY.

Operations on Oil Creek and the Upper Allegheny were of slight import during July and the first half of the month of August.

Dale & Co. completed a well on the Batten farm, about a mile south of Freedom, in Venango county, which pumped 70 barrels the first 30 hours after it was tubed. The sand, which was struck at a depth of 835 feet, had a thickness of 40 feet, and the oil appeared after the sand had been penetrated to a depth of about 19 feet. At late accounts the well was producing about 8 barrels per day.

Reineman & Lackey's well on the Hetzler farm, nearly south of the wells at Rockland, came in dry. The well was cased at a depth of 234 feet. The second sand, 10 feet in thickness, was reached at a depth of 834 feet, and the third was struck at 889 feet.

Jack Bros. & Harley drilled a duster on the Plum-McCalmont farm, three and one-half miles northeast of Freedom, on East Sandy Creek. The second sand was reached at a depth of 565 feet, and afforded gas enough for two boilers. The third sand was reached at a depth of 700 feet, and had a thickness of five feet. The firm will sink another test well between Nickleville and Barr's corners.

A 40-barrel well was finished in Bullion in July, and the field August 1st showed 5 wells drilling and 1 rig up. At present there is more interest in the Bullion field than has been taken since the Vanderlin No. 3 was struck, near Clintonville. The field still has a production of about 350 barrels per day.

At Emlenton, on the Allegheny river, operations are quite active, and producers from Bradford are preparing to start the drill in this section. A. A. Hopkins has secured lands in this locality, and has two rigs completed. A few are still looking from Ritchie Run across the country to the Cogley district.

There are 36 wells completed in the Cogley oil district during July having, on the last day of that month, a new production of 956 barrels. On the 1st of August there were 33 new rigs up and 39 wells drilling in this district, and the count by the oil scouts on the 12th showed the same number of wells drilling and one more rig building. The test wells drilled at the northeastern end of the field failed to extend the boundary lines in that direction. At Lineville Kahl Bros. found a dry hole on the Miller farm, and Glatzeau & Co. struck a duster on the Cooper tract. Wesley Chambers' well, on the Etzel farm, and the Flynn well, on the Kahl farm north of it, were both small producers. Koch Bros. & Goettel's well, on the Marvin P. Hess farm, came in a half-mile southwest of developments, started above 130 barrels per day, and on the 1st of the month was doing over 100 barrels. It started a quiet movement to the southwest, where nearly all the new work is now found. The Beals well on the Beals farm, nearly a mile in advance of the Koch, added still more to the territory at the southwest. It started at about 50 barrels, and is a producer of the regulation size for that field. The well on the Baum farm, across the pike, is a rather small affair, but shows that the territory extends as far as that point. It will require drilling on either side of it to determine whether or not the strike has reached its southwestern terminus. On the 18th of July the 54 wells in the field had a production of 1,500 barrels. The yield of the field on the 14th of August was 2,280 barrels. Fleming & Co.'s well, on the Rider farm, found a showing of oil in the 100-foot, and a little in the fourth sand. A broken formation about 40 feet in thickness was struck at a depth of 1,492 feet.

Martinsburg has attracted considerable attention during the past two weeks by several wells a short distance in advance of developments, and which have turned out larger than the average of the district. Short, Butler & Duff's well, on the H. Daubenspeck farm, started better than 100 barrels, and more may be found of similar character in the bowlder territory.

St. Joe did not afford its usual quota of good wells from its narrow fourth-sand streak.

The decline of Thorn Creek's production asserted itself in a positive manner in the pipeline runs for July, when the daily average was 3,856 barrels against 5,905 in June. During July, 15 wells were completed, having a new production of 163 barrels, and of this number four came in dry. Since the first of August, Barnum's well, on the Maharg farm, and Clark

& Co.'s venture on the Buhl farm, in the Riebold section, came in dry.

When the wild-cat wells, which were started before Thorn Creek had become an important factor in estimates on production, are completed, there will be a marked reduction in the volume of prospective work in Butler & Armstrong. While dollar oil is encouraging, the record of the drill for the past two months is of a very discouraging nature. Reports from all sections of these counties do not afford a paying well among the wild-cat ventures finished. The Gibson well on the Kelley farm, a short distance from Butler, will make a small producer, but up to this date has not given any indications which warrant drilling to any extent in its territory.

In the western tier of towns of Butler county the Shenango Gas Co. have sunk four wells for natural gas which were also valuable in proving the non-existence of oil in the sections where they were drilled.

Production of Gas Wells.

Prof. Orton, of the Ohio State University, who has been testing the producing capacity of some of the natural gas wells in Ohio and West Virginia, states that the Painesville, Erie, and other wells along the Lake Shore, average about 32,000 cubic feet per day. At Findlay, O., the largest well produces 1,294,000 cubic feet a day. The Barklay well, at Wellsburg, W. Va., yields 470,000 and the "Polka Dot," close by, 460,000 cubic feet every 24 hours.

Economy In the Use of Natural Gas.

As an item of economy, some effective figures can be produced in favor of natural gas as fuel. The following instance is shown by Supt. Hartupee, of the Penn Fuel Co.: "In the case of the Edgar Thomson Steel Works, when they were ready to use gas they discharged 300 men who were necessary to handle the coal supply. At $1 per day this would be $300, and in a year of 300 days it would aggregate $90,000 for labor alone. I know a number of small mills where from twenty to forty men were discharged, thus saving $15,000 to $20,000 a year, which is more than gas costs them. I would say that in my opinion the saving to manufacturers by the use of gas is fully 20 per cent. for the year. Of course, you will understand me, that where mills are newly fitted up for gas the saving is greater and the amount of heat is greater from a given quantity of gas than in the case where they fit up an old furnace for gas. It has been found preferable to build new furnaces on this account. Another strong argument in favor of natural gas is the assertion that goods produced with it are superior to those manufactured by coal."

NOTES ON NATURAL GAS.

ANOTHER BIG GASSER AT MURRAYSVILLE.

J. M. Guffey & Co. struck a big vein of gas at their well on the farm of S. F. Dunn, in the Murraysville district, on the 25th of last month. Work was commenced six weeks previous, and the gas sand found at a depth of 1,630 feet. Guffey and Co. hold the lease of 1,500 acres in the vicinity, and will immediately commence operations on a second well. They will probably pipe the product to Johnstown. According to estimates and comparisons made by expert geologists this well is pre-eminently the largest in the district. Prof. Edward Orton, State Geologist of Ohio, visited the new well for the purpose of gauging its volume. He expressed great surprise at its phenomenal production, and also regretted the great waste of fuel, sufficient to move millions of wheels. Prof. Orton made two measurements of the product of the well, and gave the following as the result: "My preliminary estimate makes the output near 75,000,000 cubic feet per day, or an equivalent in heating power of from 150,000 to 200,000 bushels of coal. The test I took was through a pipe in which two crooks or turns had been made, and the full rush was not taken into account. I then tried a pipe which allowed the unrestricted flow, and it broke my instrument." He has not yet made himself sufficintly familiar with the geology of this State to predicate an opinion on the extent of the gas territory, but believes the matter to be pretty well defined by Prof. White, State Geologist of Virginia, who drove the stake where the drilling began on the Guffey well. He believes the gas field to be yet in its incipiency. The estimate of Prof. Orton was compared with that made by Prof. Otto Wuth, on the Burn's gas well, on the Duffy farm, in 1875, the yield of which was placed at 24,000,000 cubic feet per day, 1,408 tons of gas. Competent judges, who have seen both wells, estimate them in the same comparison as that already indicated. Prof. White located another well for Messrs. Guffey, about one-half mile from the one mentioned above.

The gas well drilled by Gunning & Lind at Madison, O., was commenced on the 29th of June. The first vein of gas was struck July 14, at a depth of 780 feet. It has since been drilled a total depth of 1,025 feet, and is said to have a pressure of 100 pounds to the square inch.

The Pittsburgh, Virginia & Charlestown Railroad Co. have refused the Acme Gas Co. the right to lay pipe under their track at Home-

stead, and a large force of men have been placed on duty to prevent the gas company making the attempt.

William Laney, a Bradford contractor, is drilling a well for natural gas for a Cleveland rolling mill. In drilling the well to the depth of 2,900 feet they have passed through three veins of salt having an aggregate thickness of 250 feet. One of the salt veins has a thickness of 164 feet.

The Shenango Natural Gas Co., organized with a capital stock of $350,000, for the purpose of bringing gas to New Castle, are drilling for the vapor in the western tier of townships in Butler county. Up to August 15 they have completed two dry holes and two gas wells, and are now drilling two more wells. The wells which they have drilled are from ten to seventeen miles east of New Castle. In this section they find the gas in the regular Butler county gas sand, and about 1,200 feet below the limestone which serves as a basis from which depths are calculated in drilling operations in this county. The Shenango Gas Co. will lay altogether 25 miles of 10-inch, 8-inch and 6-inch gas-pipe from their wells to New Castle this year. Phillips Bros. are drilling a well in the second tier of towns from the west line of Butler county.

MISCELLANEOUS NOTES.

Contracts have been made to drill a well for natural gas at Toledo, Ohio.

A charter has been granted to the People's Natural Gas Company, Pittsburgh.

The Richards & Hartley Glass Company have completed another good gasser at Bull Creek.

A fair gas well was struck at Bethel Station. Ohio, on the B. Z. & C. R. R., July 6th, at a depth of 1100 feet.

The Bridgewater Gas Co.'s fifth well was completed August 12, near Rochester, in Beaver county. It is the largest well yet struck by that company.

Gas was struck in an artesian well which was being bored near Hoffman's brewery, Cincinnati, on the 21st of June. The owner claims it will save them $1,500 a month in fuel. Some excitement prevails over the discovery.

The Allegheny Poor Board has accepted the proposition of the Philadelphia Natural Gas Company to supply the buildings on the City Farm with natural gas during the ensuing year for $1,300. The cost of coal at the farm last year was $1,800.

Charters have been issued to the Manufacturers' Natural Gas Company, of Pittsburgh; capital $30,000; Canonsburg Light and Fuel Company, of Washington county; capital $20,00.

The Natural Gas Company, of Petrolia, Pa., announces that it is ready to supply the citizens of that place with gas at the rate of two dollars per month for each fire in dwelling houses

The estimated value of the natural gas used in the United States in 1884, was $1,460,000, as against $475,000 in 1883. The value is computed from that of the coal superseded by natural gas.

While boring for water in the vicinity of Clinton, Illinois, a vein of natural gas was struck at a depth of ninety feet. The quality has been demonstrated to be good. Steps are taking to utilize the discovery.

Natural gas was struck at Port Colborne, Ontario, at a depth of 420 feet. The force is sufficient to light up the town, and on August 11th the well was tubed and its product run into the gas mains of the town.

The Hite Natural Gas Company, of Pittsburgh, organized by P. Y. Hite and S. M. Ross, are laying pipe to Sharpsburg. The paid-up capital of the company is said to be $250,000. The estimated cost of the line is between $300,000 and $400,000.

The second well of the National Tube Works Co., of McKeesport, was struck at Murraysville on the 7th inst. The flow is unusually strong, and it sends forth its volume of gas with a tremendous roar, which can be heard above the noise of the other wells in that locality.

The East End gas district, in Pittsburgh, is failing. To-day but five wells produce gas that is worth gathering. They are Westinghouse No. 1, the first struck, No. 2, No. 5, No. 6, and the well at the Brace Laundry. The total amount produced by all is comparatively insignificant. In one day they do not produce as much as the Westinghouse well No. 1 did during its first month in one-half hour. Insignificant as it appears when compared with the great well, the amount is still enough to supply through the Philadelphia company, 150 houses and a half dozen works in the East End. It is now little over a year since the territory was thought to be the richest gas field in the world, yet during that time it has virtually been exhausted. The supposition is that the Westinghouse No. 1 dipped into a "pocket" of gas, the like of which may never be discovered again.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., SEPTEMBER, 1885. NO. 8.

SCOUTING OIL ON TUG FORK.

A RETROSPECT, BY P. C. BOYLE.

SOUTHERN OHIO, in the Summer of '83, was the cynosure of "oil" eyes and Macksburg's star was in the ascendant. The question, "Will it make a dangerous field?" then agitating trade circles, was taken up in the bucket shops and echoed far and wide. Meanwhile all sorts of people representing the various industries which enter into the makeup of an oil population stood idly, but interestedly, by awaiting the issue of experimental development, ready upon the first alarm of success to pay devoted homage to the new field. Field men hurriedly abandoned the waning attractions of Porcupine Run for the new promised land on the sun-baked banks of Duck Creek, and in the flight of the scouts the curbstone element witnessed the first evidence of alarm. The two initial wells of that field, finished under the intelligent auspices of northern workmen, methods and nitro-glycerine, failed to meet the demands of popular expectation. But at a later period, when salt water was better understood and its advantages for tamping purpose comprehended, the original trouble was properly attributed to a too close observance of Bradford methods. From this time forward Macksburg began to lose caste; the abatement of interest found expression in the speedy return of the field men to the hemlock shadows of Porcupine and the Tionesta. Two weeks later when "Daddy" Decker's No. 2 well came in the writer hereof was the only field man, so to speak, on the ground to witness that interesting natatory event. "Daddy's" well was drilled in wet, exploded with Hercules powder, under salt water tamping, and tanked in the ensuing twenty-four hours thirty-seven barrels! The event was hilariously celebrated in cheap wine from Mr. John Kathary's cellars. Inasmuch as it was considered a signal triumph of the simpler native practices over the more elaborate foreign methods, the utmost good feeling prevailed. July 22d was considered a red-letter day. And from the bar-rooms and barber shops came the joyous proclamation that "Daddy's" No. 2 was a "horse" for Macksburg. In the August following Huling's well No. 2 came in on the southwest, showing for a paying well. This added proof of the pudding gave its friends another opportunity to whoop for Macksburg. The new field had won many admirers and was on the high road to popularity when an untoward circumstance occurred which threatened to annihilate its prospects. In October Bradley, Kennedy & Foster finished a well to the south of Hulings' which was a complete failure. This was a severe blow on a new field, but Hope, in the person of a friend of the field, glibly cited wells which, had they been experimental, would have changed even Bradford's destiny. Hope, however, hung her head in despair when a few weeks later Mullin & Mills announced the alleged failure of their well on Long Run. This was the last straw, its frontier wells were failures and Macksburg's doom was apparently sealed. This was the condition of affairs when Beaumont became possessed of information concerning a well of great importance on Big Sandy River, 150 miles south of developments. Convinced by its position of its importance, Beaumont, restless rider that he is, was one day missing from his usual haunts, and to a scout the unexplained absence of another scout is deemed sufficient cause for envious apprehension; where is he, and what can he have gotten onto? was the usual form in which their alarm was expressed. After several days Beaumont showed up; he had been to Warfield, had found the well, and to prove his discovery had brought back with him samples of drillings and a record of work so far as it had then progressed. It was Beaumont's opinion that the well was then in the cap rock of the salt water sand. Beaumont believed in the well, and the boys believed in Beaumont; his graphic description of the topography surrounding its location inspired others with Beaumont's confidence.

No immediate danger of a strike was apprehended. To use a Watsonism, "It wasn't quite ripe, but when the proper time came we should know all about it." I resolved to keep a sharp eye on Warfield. Soon after this McKinney's strike, at Henry's Mill, electrified the region, and one after another the scouts swung out into the broader current of events, and Warfield, with its enormous possibilities, was forgotten. Some months later an alleged oil strike on Cow Run furnished the pretext for a run into Southern Ohio. The Cow Run mystery was readily unraveled; as it chanced the local press had not got through discussing a wonderful gas and oil strike at Warfield, on the Tug Fork of Big Sandy River. Inquiry into the facts, so far as known, satisfied me the well occupying so much space in the prints of the day was Beaumont's recent discovery; the rumors concerning it floating about the country magnified its importance. I telegraphed General Manager Satterfield a brief bulletin of the Tug Fork strike and set out at once for Warfield on a tour of investigation. At Catlettsburg I learned Warfield could be reached by steamer or rail, the former everybody told me was the preferable route, as the railway stopped eighteen miles short of my destination, and the interval would have to be covered in the saddle on the roughest of mountain roads. A man to whom I applied for information "'lowed" I had better wait for a boat, "unless I could ride critter back." Small steamers plied daily to Louisa C. H., and to points beyond when traffic was good. At this time, however, although the streams were in rafting stage traffic to points on Tug Fork was light and the chance of catching a boat for Warfield was correspondingly slim. The steamer "Mountain Boy" was then in port collecting a cargo for Pond, which is some twenty miles beyond my destination. It had been billed to leave every day for a fortnight, postponing each date as the time arrived. It was billed to leave the following day, sure. This much a steamboat agent assured me and I was in luck. Satisfied of the trustworthy character of my information, I settled down with no little impatience to await the departure of the boat, but the profane remark of a raft-

man, who desired to ascend the Tug Fork, casually dropt in my hearing, caused me to question my luck. I would interview some one who knew something about marine affairs and settle the matter to my personal satisfaction: "Does this boat leave to-morrow?" I asked, addressing a functionary of some sort on board the "Mountain Boy."

"Maybe 'twill."

"Any doubt about it?"

"Maybe thar is, maybe thar aint."

"Who in thunder knows for certain?"

"The Superintendent, I 'low, if ennybody."

Following the man's directions I found the Superintendent of the Big Sandy Steamship & Navigation Company to be an agreeable young gentleman with a nose for news; instead of interviewer I was the interviewed. He plied me with a running fire of questions, regardless of answers, something after this fashion: "I wanted to git to Warfield, eh? Been thar before? Had I kinfolks in that part? Was I the party a comin' out to see Kunnel Barrett? Had I hearn of that big blowin' well?" I had "hearn" of the well and would like to get to it. "When do you 'low to go?" he asks.

That was for him to say; I would like to leave on the first boat?

"The 'Mountain Boy' leaves, lemme see," he answered, abstractedly consulting apparently an obdurate memory: "This is Monday, to-morrer is Tuesday, and the 'Mountain Boy' leaves the day after to-morry, which is Wednesday."

Railroad transportation was now good enough for me and I had decided to take the first train for Peach Orchard. The last train had gone for that day, and making a virtue of necessity calmly awaited the pleasure of the railway authorities. Catlettsburg was alive with rumors concerning the Warfield well, stories while differing widely in matters of detail were a unit in one point, namely: that it was the biggest well ever heard of anywhere. In the vigorous language of the Kentucky *Democrat*, "the tools, 5,000 pounds in weight, were lifted by the sheer force of gas out of the well hole with the ease of a feather's heft." At the hotel I met a Mr. Brewer, who is a Warfield man, and who gave me the first intelligent information of the well, also valuable instructions concerning the route I am to travel, beside putting himself out to a considerable extent to hunt up a traveling companion in the person of a young man whom he knew, and who like myself was inward bound. I embrace this occasion to say that I found Mr. William Deskins, of Pike, a clever and companionable gentleman. Deskins was engaged in the lumber business and was then returning to his home in the heart of the Cumberland Mountains after a successful run of timber to the Ohio River. At 10 A. M. next day we arrived at Peach Orchard, the present terminus of the Chattaroi Railroad. It was decided to ride to Eden, to dinner, a distance of eleven miles. Deskins expected to find a horse awaiting him at Peach Orchard; "his own critter," he had given me to understand, would be at a certain livery barn where I expected to be supplied with a mount. Deskins was full of horse talk and gave me much valuable information on this interesting subject; he was duly alive to the superiority of the Kentucky bred animal, and was outspoken in his belief that Kentuckians are the best "horsemen in the world." I said but little, and that, I noticed, was received in a deprecatory way. A scene I subsequently witnessed in the livery barn confirmed my suspicions of his contempt for my knowledge of the "hoss." He volunteered to select for me a "critter" I might ride "off'n a walk." I thanked him and left the matter entirely in his hands. The man in charge said there was but one saddle critter in the barn, calling him "Black Billy." Deskins seemed to recognize the name, and I thought I detected his countenance change at the mention of it, but I immediately busied myself with getting inside a pair of horseman's leggins and gave Deskins no attention for the time being. When I had "pulled myself together" and taken a view of the surroundings I discovered Deskins and the hostler in a distant part of the barn conducting an animated discussion which, but for the occasional remarks that reached me, I would have taken for a clever piece of dramatic rehearsal in pantomime. Vigorous gestures of assertion were followed by cold shrugs in rejoinder. I presently hear Deskins in a higher key: "He's as vicious as sin." And hear the hostler reply, deprecatingly: "Sho." The motion of body and vibration of his arms indicated that the hostler was still speaking in an under tone. Again Deskins, impatiently: "Mought do for you and me, but is the critter safe for a stranger, an' a fren o' Brewer's?" The reply was inaudible, the voices again became subdued, ending with acquiescent nods on both sides. The horses were saddled and produced without further delay, Deskins in the easy hospitable manner which well became him, and without the slightest evidence of making a sacrifice in my favor, proffered me a choice of the animals, suggesting my acceptance of the "critter," a clean limbed bay with all the marks of the Kentucky thoroughbred in its shapely erect head and fine form. "He knowed her," he said, "every minnit of her life, and wouldn't be afeered to trust her on the brink o' hell of a dark night." I thanked him, said I could not think of depriving him of his fine animal, the "black" would do me. Deskins made no response, but presently in a cautionary manner and addressing the hostler said: "Black Billy's as good as anybody's critter, a little skeerish some times, an' a trifle wilful perhaps, an' hard in the bit, but he's as easy as a cradle," and to me reassuringly: "We ain't in no hurry no how." The advice seemed superfluous, but was accepted with thanks. We mounted and were off, Deskins leading the way. I noticed him glance furtively over his shoulder, and slow down to a walk at rough places, and that he had considerable trouble in persuading the critter to adopt that to her unusual gait was plain. Nothing occurred in the first half hour's ride to excite suspicion. I had considerable trouble in the management of "Black Billy," who was evidently unaccustomed to second place. Deskins continued to throw anxious glances over his shoulder, always finding Billy at his "critter's" tail, tugging at his bit with equine persistence eager to forge ahead. I could not but admire his mettle, nor cease to wonder what fine time he would make in a forced run to the telegraph office under the superb horsemanship of Scouts Edwards, or Tennent, or Torrey. "Billy" presently gave me an example of his mettle, for which I was not fully prepared. He had not ceased champing the bits since we left the barn. I had kept him reined in, but the moment I slacked the rein he seized the bits between his teeth and shot ahead with the speed of the wind, taking in a six-foot side ditch at a turn in the road, at a graceful bound; he vaulted back into the road and then settled down to a swift single foot trot, which he kept up for a mile or more with ease, while Deskins and the "critter," under a brisk hand gallop brought up the rear.

"Billy" possessed all the equine graces and many of the vices of his noble race, all of which he rehearsed for

my especial benefit with strict impartiality; he alternated from gait to gait with the easy confidence of a veteran, and with evident equine enjoyment of his accomplishments. After exhausting the repertoire, he settled down to good work as docile and tractable as my own "Dan'l Webster." When Deskins rode up he was speechless with surprise, astonishment was depicted on every feature. What he thought I never knew; he was too polite to express the sensation in words

Deskins possessed in a remarkable degree the amiable vanity of his section. It was his unquestioned belief that any one able to maintain a firm seat on a spirited horse was of necessity a born Kentuckian.

We overhauled a footman plodding wearily over the frozen ground in the direction we were moving; Deskins in a voice of delight hailed the pedestrian as friend, and here he gave me another example of his native hospitality; the footman was invited to mount the "critter" behind Deskins, who would accept no protest or listen to any excuse. The new acquisition to our party was a West Virginian; he had just quitted the court room at Barboursville where a homicide of local celebrity was on trial. Deskins manifested a lively interest in the trial and drank with eager intensity the details as they fell from the narrator's lips. The fellow remembered everything and recited points of testimony down to the minutest detail with hardly a break in the narrative, except an occasional reference to a note book to correct his memory. His opinion of the case as it stood when he left interested me. He said that while the accused was guilty of the charge, sure enough, was yet liable to be acquitted on the ground that his connection with the crime was not legally established. "Of course," assented Deskins, who had accepted acquittal as a foregone conclusion, "they won't convict 'Bob,' for no Floyd that ever kicked." Deskins' friend proved to be a walking encyclopedia of mortuary episodes of a homicidal nature. I touched him upon other subjects of local and general interest, but his mind was blank on everything else. The country we passed through, I noticed, was sparsely settled and the few improvements met were of a rude and temporary character. Eden, the county seat of Martin county, I am free to confess, was not all my fancy painted it. No matter how modest my mental picture I felt a pang of disappointment with the first view. Eden, it is true, is not without a wealth of Alpine picturesqueness; it is a straggling hamlet, and commercially, industrially and architecturally speaking it is a lamentable failure. The Court House of brick—the only brick structure I saw in passing through the county—was built before the snort of the iron horse awoke the echoes in the foot hills, and it towered loftily above a jail of logs hard by.

The two hotels of the place presented their rival attractions to the wayfarer, rather through saintly nomenclature than imposing architecture. We patronized the St. James; tender sentiment, however, ought to have suggested the St. Genevieve, but perhaps association with superb hasheries of the first named house elsewhere had something to do with it; at all events Deskins went there because he wanted to, while I exercising no judgment in the matter, weakly followed because I was hungry. We were late to dinner, the menu was limited to the fewest articles compatible with variety. I greatly enjoyed the hot corn bread. The hostess in way of apology said: "Taters and truck and things is powerful skeerce in winter." To which Deskins promptly responded: "Pone an' pork gravy, mum, an' store coffee is good enough for the best in the lan'." We were honored by callers during our short stay in Eden, the first was an undersized and exceedingly fresh young man, who lost no time in stating that he didn't belong in this country, "no; he was a native of East Virginia; Alexandria, 'Old' Virginia; was handling a few sewing machines; thought he would call and bid us the time of day; did we want anything in his line? No? Good day."

I was doomed to meet the Alexandrian again and upon a more ceremonious occasion, as will appear further along. A member of the Martin county bar was among the callers; he was interested in the development of the resources of the country and was anxious to enlist Eastern capital in the enterprise. He had no axe to grind, no private scheme to promote, but would render all the assistance in his power to parties meaning business, and I was personally satisfied of his sincerity. At two o'clock we were again in the saddle. Two miles beyond Eden we parted company, Deskins' path diverging from the traveled road. We halted a moment, Deskins mapped out my route, invited me to call on him before I left the country, turned the critter's head toward Pike, and was off like a flash. I saw no more of Deskins. I trust I may some day be able to return the services he performed for me.

Arrived at Warfield before sunset I proceeded at once to the well, which is a mile and a half distant, but its location was readily determined by the sullen roar of the escaping gas. It was a gaseous wonder! What vapor could be crowded into two pipes was carried several hundred feet from the well and burned, the flame igniting fifteen feet from the ends of the pipe, at the same time enough gas was escaping at the casing head to supply a dozen pipes. An effort had been made to shut the gas in the well and divert its flow through the channels provided by battening down the casing head; the effort was entirely futile. A forty foot stem had been laid horizontally across the casing head and this had been freighted with tongs, wrenches, elevators, bits, sockets, grabs, and the various odds and ends of one kind and another usually to be found around wildcat wells; the stem with an added weight equal to its own, and the whole weighing not far from 1,000 pounds, rose and fell under the pressure of the gas like an automatic valve, the gas meanwhile issuing from the aperture with the hissing sound of escaping steam. Here in the midst of the Cumberland Mountains, miles from a market, I saw a well worth in Pittsburgh $100,000, wasting its carbon, so to speak, "in desert air." The owners of it were in the position of the man who drew the elephant. At the well I met Captain Amos Allen, Superintendent; Captain J. A. McClurg, Treasurer; P. A. Sanns, J. H. Poston, Directors of the Nickle Plate Oil Company, owners of the said elephant.

The Nickle Plate party was quartered at Brewer's Hotel, and this party happened to be large enough to fill the house. Captain Allen interested himself in my behalf; his efforts resulted in seeing me comfortably quartered in the sumptuous home of W. D. Barrett, an officer of the Tug River Coal and Salt Company. The Nickle Plate boys had been in Warfield several days and were about ready to depart when I arrived. They were anxious for marine news and my information had a cheering effect, as there had been fears expressed among them that they would be obliged to go out as they came from the terminus of the Chattaroi road, namely, in wagons. Allen made a calculation on the speed of the boat and expressed the opinion that the Mountain Boy leaving port at the usual hour Wednesday would arrive at Warfield Thursday morning. Relying with childlike

confidence on the faithful appearance of the Mountain Boy at the appointed time I parted company with "Black Billy" next morning. Handing him over to the mail rider on his outward trip; I think the regrets were all on my side for he cantered off with perfect indiffererence, even to kicking a parting salute at space as he rounded the corner and disappeared from view. All my life I had heard of perfect saddle horses, and rode some alleged faultless animals, but my short acquaintance with "Black Billy," I am free to confess, gave me a new idea of equine perfection. Warfield was in an advanced stage of dilapidation; the village was once the capital of Martin county; it owes its existence and past glory to John B. Floyd, Buchanan's traitorous war Secretary, who thirty years before drilled two wells and erected a furnace for the manufacture of salt. Originally and with the advantage of slave labor the business may have been remunerative, but for several years past it has not been a success, owing largely to the fact that the water contained too small a percentage of brine. The works and property have changed hands several times since the war, and now under the style of the Tug River Coal and Salt Company, it is owned and controlled by Colonel Barrett and his two sons, and managed by the same interesting trinity. Thousands have been spent on the development and improvement of this "fine" property, which remains practically unimproved and undeveloped, and the Tug River Coal and Salt Company, which doubtless made a fine showing in the Eastern exchanges, exists, so far as my observation extends, in name only. Warfield has little veneration for Floyd, its founder, but in West Virginia, across the narrow Tug, "Gin'ral" Floyd is remembered with affectionate regard. The cause of this is seen in the fact that in Warfield and Martin county generally, sentiment during the war was Union, and still is Republican, while in West Virginia sentiment ran to the opposite extreme. "Gin'ral" Floyd was in Warfield but once after the commencement of hostilities, and then his mission was a peaceful one, connected more or less remotely with business affairs, but in all his varied career of Governor, United States Senator, Secretary of War, his greatness never impressed itself upon his simple mountaineer friends as when he stood before them in the uniform of a Brigadier General, gorgeous in gold lace and glittering with the tinsel and panoply of war. Warfield is linked to past generations by many ties, but none so interesting as that of the patrician brother of General Floyd, Mr. George R. C. Floyd, a gentleman of the old school, and noted for his fine conversational powers in an age when address was considered the first accomplishment of the gentleman. He is now past eighty, and in full possession of his matchless powers; he sees much company, entertains like a prince, and dispenses hospitality with a lavish hand.

Thursday was a day of expectancy, a constant watch for the Mountain Boy was maintained, but we suffered disappointment in the end. Toward evening I step out among the "groceries" and form sundry new acquaintances; the one article of trade in the Warfield grocery is usually sold by the pint and quart, but rather than lose a cash deal rules are suspended and the customer is supplied with smaller measure. Among the new made friends is one I met before. The former occasion was amid "war's alarms;" he was one of Wycher's warriors, and our meetings were usually at long range. Here after a lapse of nineteen years we meet in a Kentucky grocery, and over a brimming cup of Kentucky groceries, find enough to laugh at in the humors of a disastrous campaign, which nineteen years before presented no humorous side—to me at least. The boys who went down to Lynchburg with Hunter and participated in the subsequent retreat will agree with me there was little to laugh at between Lynchburg and Great Kanawha. It did not then seem that Colonel "Bill" Wycher's semi-savage cavalry contributed appreciably to the humor of the situation by hanging on our flanks and rear for more than one hundred miles, and banging at us at every step. Times have changed and Wycher's warrior no longer hungers after my scalp, but my money, and only so much of this as I can be persuaded to invest in groceries at his store. The day wore slowly away. Nightfall put in and still no boat. Deep gloom settled in our several camps. Poker's subtle charms proved no longer attractive as a pastime, we were already thousands in debt to each other without the slightest idea of ultimate liquidation. Society was rapidly becoming a bore; some of the Nickle Plate boys had determined to go among the groceries and rashly extend an already large acquaintance, and I had made up my mind to be of the number. At this juncture, Captain Allen, who had been a prime factor in our former amusements, asked to be excused for a time, requesting the boys to remain as they were until his return. In less than an hour Allen was back, announcing a dancing party at a neighbor's house, and he as the representative of said neighbor, invited us to be present, dancing to commence forthwith. The announcement fell flatly enough; many objected, and for various reasons; some were too far along in years to engage in the enjoyments of frivolous youth; others had no inclination for such amusement; one plead rheumatism; another exposed and held aloft in mute protest a malformed finger; as for myself I could not dance and promptly filed a declaration to this effect, but I had a world of curiosity to gratify which I would willingly attend. We found a number of people of both sexes, young and old, in the house where the dance was to take place, and the disposition to make it pleasant for the visiting oilmen seemed general. In one corner a violinist was attuning his instrument, and the event was observed and commented upon with critical interest. The dancers presently arranged themselves in couples around the room as closely as they could stand; a young man from Ohio, temporarily sojourning in Warfield, was by common consent allowed the gracious privilege of conducting the first set. "Places all," shouts conductor, suiting the order with a shuffling motion anticipatory of the music which at once became infectious and passed around the circle.

The violin was silent.

"Music!" says conductor, authoritatively.

"Thar haint nobody to beat," replies music, dejectedly. A dozen female voices, in shrill key, instantly chorus: "You, Johnny! come yar'n beat?"

"You, Johnny," a slender youth of sixteen, appears, takes a position obliquely in front of "music," produces two slender hard wood sticks and begins to drum an accompaniment on the strings at the hand piece of the instrument. The effect was weird, yet resonant and not at all unpleasant. I don't know which I most admired, the rollicking melody of the dancing air or the expert drumming of "You, Johnny." The dance was now on, the conductor in the correct vernacular of the ball room and confident language of one familiar with his business, shouted something that dancers elsewhere recognize, and at once set out upon the execution of the figure, dragging a reluctant partner in his wake. Everyone else in the set stood still or craned his or her neck in-

quisitively and fidgeted in a timorous way. "As you are," shouts conductor, who seeing that something was out of order, backs correctively into his place. He again pronounces something in the line of dancing this time less confidently than before, and he held back to observe the effect of the call. The dancers fidgeted again as before, tugged nervously at each other, presenting an exaggerated picture of confusion confounded. "What's he mean?" whispered a dimpled maiden in a frightened stage, aside to the young man from Marrowbone. The person appealed to looked wise, but made no audible response. The embarrassment was momentarily increasing, and in the height of it all, the girl from Hunnewell Furnace laughed. This broke the spell, everyone was himself again, and opinion was freely exchanged.

"Music," who had been working industriously through it all, was now conscious that something unusual was going on, but the dance was not, stopt to inquire why was so much good music wasted? There was a demand for a change of conductors, and responsive to a popular call for "Doug," Mr. W. D. Barrett took up the burden his friend laid down, the tangled mass was soon straightened out and thence forward all went merry. The young man from Ohio, who was secretly conscious of being in the right, in an Ohio point of view, was not only in disgrace, but was pitied for his lamentable ignorance. This, however, did not amount to social ostracism, for he could, and did execute their dances, if they "couldn't his'n," and enjoyed the fun immensely. Dancing went on at first in a timid restrained manner, but this gradually wore off, and at the end of the first hour everybody in the house was under motion, either forced or voluntary, for maid and matron alike seized of humorous impulse, made frequent dashes here and there among the male spectators, and whirled some favorite in the giddy maze, to the intense enjoyment of all, after which demurely return to their partners. Men freely enjoyed the same license, and the girls or women submitted in equal good humor. Allen and Poston entered early into the spirit of the fun, and one or the other graced every set. Allen created the sensation of the evening by leading to the floor the accomplished niece of the aristocratic John B. Floyd. But, Floyd, alas! did not live to witness the gallant act. She was an exceedingly graceful and courtly lady, and her female associates addressed her familiarly by her Christian name, "Peggy."

For some time I had noticed Dr. Sanns with feet and hands going, unconsciously beating time. It was no surprise when later I saw him whirling and bobbing in the intricate mazes of the dance, and a busier man for the time being I cannot imagine. Enjoyment was at its highest when I am startled at the sound of a familiar voice in an impulsive:—

"How'r y'all!"

It was my acquaintance of Eden, the Alexandrian; he bustled into the room, took in the situation at a rapid glance, made a few preliminary hops to catch the measure, and before anybody could restrain him, he had clutched a girl and crowded his way into the already over-crowded set, the dancers good humoredly making way for him. His dancing, like everything he said or did, was impulsive; his motion was too rapid to be graceful in the execution of thrilling figures such as: "All run away." His little legs did not fly, they simply flashed. I remember the girl from Hunnewell Furnace, his involuntary partner, came out of that set as she might have come up out of the river. Upon another point my memory is equally retentive, namely: She was in no condition to engage in the next. The young man employed the interval in love making, and this, like everything else, he performed in a thoroughly characteristic manner. In a room filled with people of both sexes, he stood upon a stool to bring his lips on a plane with his charmer's ear —her soul's funnel—he called it, and with demonstrative audacity poured alternately, love, shop, genealogy and geography, into her not too willing ear. The last three propositions were substantially the same as he related them to me at Eden. Had the young man confined himself exclusively either to his lightning-like dancing or his erratic love making he might have been spared the disgrace which subsequently befell him, but the anticipation of fate is something which less impulsive or audacious persons have never successfully accomplished. Alexandria, by which in the absence of a better name he shall be known, developed a passion for fluid groceries; it is but fair to assume he discussed his groceries in the impressible way he did other things. At all events he fell. It was yet in the "shank of the evening" when the effects of his potations became painfully apparent, and his amatory howls transgressed the bounds of toleration. He was ejected by the host, while tearfully discussing a proposition to fight the man from Marrowbone, with any "weepin he would chuse." The cause of the proposed duel was believed to be in some way connected with the alienation of the affections of his adored. This was the only disturbance of the evening, and it was so gratuitously ludicrous that whatever of rudeness the episode possessed was lost in the keener appreciation of the humorous side. The host, however, failed to recognize the element of humor in the situation, gravely averring that he was not responsible for Alexandria's presence. The dance went on, joy was literally unconfined, I had entered into its pleasures so fully in the spirit that from this state to personal participation was a short step, and one that I surprised myself by taking in due course. What mattered it that I was no dancer? and densely ignorant of all the details of Terpsichorean evolution? The chief element in dancing as the subject suggested itself to my mind from a critical observation of the actions of Dr. Sanns, consisted in free gymnastic action of the limbs. And is not my legs as limber as his'n is? I flattered myself and submitted the rest to my fair partner, an expert in such affairs, whose superior knowledge fetched me through the intricate measures in fine shape; all, in fact, were commendably considerate of my novitiate experiment, and they were kind enough to head me off when I went wrong. McClurg, no longer able to endure the solitude of his lone wall-flowership, compromised with his rheumatism and joined the joyous, rollicking, perspiring circle. By this time all in the house were dancing, except one small, sleepy urchin, who filled a self-imposed mission with signal ability. Much of the dancing was characteristic of energy rather than grace. "Music," no longer able to restrain nature, gathered his legs under him and made his feet play like pile drivers on the floor. The man from Marrowbone had succeeded to the leadership, and in the excitement of the hour, fell to pronouncing the figures in the sing-song tone of the plantation darkey, keeping up a mumbling, droning air suited to the music between calls.

There was one figure we particularly enjoyed, and when we heard the call, "We'll a-l-l!! dance"—falling inflection on dance—we cut loose and "welted the flure" with vehement energy. Another popular figure was, "We'll all run away." This was popular with me, because of its simplicity of execution; it was nothing

more than a skipping promenade around the room. The small boy with the mission was differently affected by it, to his juvenile mind the call was freighted with agricultural suggestions, implying dire consequences and predicting the utter destruction of a favorite crop. No matter when this call was pronounced the small missionary answered it with a shrieking yell:

"Hogs in the corn!" tersely at first, but sleepily as night wore on.

Soon after midnight the dance ceased and the perspiring throng, now thoroughly amused and entertained, quietly dispersed.

Captain McClurg had witnessed Mardi Gras festivities in the gayest Southern capitals; Dr. Sanns was personally familiar with the Bal Masque, as officially conducted in the ancient French city of Gallipolis; Mr. Poston was at home in the spike-tail coat and white mitten affairs of polite society; Captain Amos Allen was an authority on dancing bees in Western New York, and had enjoyed an extended experience in oil country hops, from Petroleum Centre to Warfield, yet in all their varied experiences the gentlemen were unable to recall a scene like this!

Friday came and went and no boat appeared. My mind was fixed to leave in the morning for Peach Orchard—if the boat put in no appearance in the meantime—by any conveyance I could find, and walk if no better means were to be had. Colonel Barrett arrived that night on horseback from the railroad, the horse was to go back and this settled the matter of transportation. I could help myself and at the same time do the Colonel a service. Barrett I found to be an exceedingly interesting character; he was past three score years, and carried his age like a youth of twenty-one, a fluent talker and capital entertainer. The Colonel's time was fully occupied in the affairs of the Tug River Coal and Salt Company, and that his duties were arduous the Colonel would cheerfully attest by personal affidavit. He was a Kentuckian, but lived much in the East and West. Barrett lived in Springfield, Ill., when the war began, called himself a personal friend of Lincoln, but he preferred to serve the Confederacy and co-operated with Jake Thompson in the Conspiracy Department of the Confederate service. He recalled many anecdotes of the great President, to whom he referred familiarly as "Abe." One of these he was particularly fond of, as he adverted to it a number of times during the evening, and for the reason, as I thought, that in it Barrett, by implication, was introduced in the light of special friend and benefactor. It presents in a touching light the domestic side of Lincoln's nature. Briefly told, the anecdote ran something like this: Barrett had a grove of young maples which Lincoln greatly admired. Barrett presented Lincoln with enough trees to make a shade on the eastern exposure of his residence which was unprotected. Lincoln watched the young trees with a forester's pride and frequently commented on their beauty. What remains is best told in Barrett's language: "I had business with 'Abe,' and not finding him at his office proceeded to his house. 'Abe,' as usual, invited me to look at the young trees, and asked me if I ever saw anything grow like they did? While we were transacting business the hired man entered the room, axe in hand, and stood by the door for some time before he was able to attract 'Abe's' attention. When Lincoln noticed him he said kindly, 'What, now, John; what, now?' 'I am to cut the shade trees?' said John, interrogatively. 'What's that?' said Lincoln, angrily: 'cut my beautiful shade trees! You infernal rascal; John, what do you mean?' 'Please, sir, the missis has ordered me to cut all the maple trees.' 'Ah, John,' said Lincoln, sadly: 'If that is her instructions, go cut them down.'"

Saturday opened cold and blustering. I started for the railroad against the advice of old mountaineers. What was a cold snap and a capful of wind to one used to the rigors of a real winter in the hemlock zone? When too late I repented of my rashness. Accustomed for years to an outdoor life it had never been my misfortune to be caught out in such stinging weather. At Eden I drank about a pint of boiling water, borrowed some extra wraps, laid in a large supply of ginger root, and thus equipped, started for Peach Orchard. When I reached the latter place I was chilled to the marrow. The thermometers at Peach Orchard registered 27 degrees below zero; the coldest ever known in that region. It took hours to thaw me out, and several days elapsed before I could take a trustworthy inventory of my aches and pains and frost-bites.

Natural Gas for the Manufacture of Plate Glass.

There are a number of plate glass works in the United States, one of the largest being located at Creighton, Pa., on the Allegheny river, twenty miles above Pittsburgh. By the use of natural gas, which comes from its own wells, and takes the place of 3,000 bushels of coal, a day, the Pittsburgh Plate Glass Company, can compete with the French and English plate glass works, and produce a quality which is superior to any manufactured with coal as fuel. The company owns two gas wells, which are about 1,150 feet deep, and the entire works are now running with a little over one-half the production of one well. The pressure of the well is 240 pounds per square inch. This pressure is reduced at the well to 120 pounds, and, as the line works wide open, the pressure in the regulator at the works is lowered to 80 pounds, and is still further reduced before it enters the furnaces. The pipe which conveys the gas to the works is four inches in diameter. The surplus gas is used in the town for heating and lighting; and as but a small quantity of this is consumed, as compared with the supply, a tube, high in the air, sends out a large flame which lights up the surrounding country.

Glass made by this fuel is decidedly superior to that made by the use of coal. No coloring material can get into the melting pots, and the flame of the burning gas is free from impurities which would injure the quality of the glass. Several inches of this glass, when seen through from edge to edge, show no appreciable color. The control which the workmen have over the heat in the melting furnaces, and especially in the annealing ovens, enables glass of great durability and strength to be made.

BRADFORD oil property is in good demand and prices have greatly advanced. The producer who has kept his old wells, through the changing phases of the past three years, begins to realize that they are a pretty good thing after all, when oil hovers about the dollar mark, even if refiners are discriminating against him at twelve and a half cents a barrel. Two wells on the edge of the town, bought three years ago for $1,800—were recently sold for $2,500. The production for those three years, had more than paid back the $1,800—cost and all running expenses, and the fortunate buyer realized over $2,500 by the transaction. Five wells out on the West Branch road, bought one year ago for $4,000, changed hands at $5,300, and were lately resold for $7,000. These are only a few examples.

OIL REGION CHRONOLOGY.

FOR AUGUST, 1885.

AUGUST 1. AGE Oil Report shows 242 wells completed in July, of which 27 are dry; new production, 2,689 barrels; new rigs, 186; old rigs, 106; wells drilling, 284; total, field operations, 576. Thorn Creek production, 2,837 barrels, from 154 wells. Trading at the Exchange light. Market opened at 98 5-8 and closed at 98 1-2. Everybody waiting for a break in order to buy. Bradford C Company returns from camp at Conneaut Lake. J. C. Fisher & Co., of Pittsburgh, dissolve. Brokerage business continued by Craig & Lowrie.

August 2 (Sunday). Henry W. Brown, of Brown, Bros. & Co., lumber and oil men, at North Clarendon, Pa., while laboring under mental depression, commits suicide near Chattanooga, Tenn.

August 3. Market opens at 98 3-4, advances to 99 1-2, declines to 99, remains with little change between 99 and 99 1-8, until 3 P. M., when it advances quickly to 100 and closes firm at 99 3-4. Mayor Thomas, of Titusville, vetoes the ordinance granting Oil City Fuel Supply Company the right of way through the streets.

August 4. Beal well in advance of developments at Cogley Run, showing for 15-barrel well, and furnishes pretext for a raid on the market. Opens at 100 1-8 and closes heavy at 98 3-8 bid. National Transit Company notify its patrons that lower country and middle field oil will be kept separate from oil produced in the upper fields.

August 5. Market opens weak at 98 1-4, declines to 98. In the afternoon rallies to 99 1-8 and closes at 98 1-2. Field buyers for Joseph Seep notified to pay a premium of 10 cents per barrel above market price for lower country and middle field oil. Judge Acheson at the Pittsburgh Court makes an order for the settlement of forty old cases of the Roberts' torpedo patents.

August 6. Market remains firm; closing at 98 7-8. Walter Kepler shot by George Keck in a house of ill repute at Titusville, but not fatally. Gordon farm well, at Washington, Pa., showing some oil at Gantz sand level; very little gas. Thayer well opened to public; has 20 feet of hard, white sand with a little amber oil and considerable gas.

August 7. Market devoid of interest; highest, 99 3-8; closed at 98 5-8. Carrying rates high in New York and Bradford. Boden & Aiken's No. 16, at Macksburg, makes 160 barrels first 24 hours. Death of Judge Lamberton, at Franklin, aged 77 years.

August 8. General Grant's funeral in New York. No market.

August 10. Market without strong features; opened at 98 1-2 and closed at 98 3-4. Carrying rates 75 cents at New York Exchange. Pittsburgh Oil Exchange dissolved by decree of Judge Collier. Henry Sutton while tubing a well of Thompson & Collins, at Stonehill, Warren county, is pierced by a polish rod which falling thirty feet, goes through his right shoulder, emerging at the hip; small hopes of his recovery.

August 11. Market weaker; opens at 98 5-8 to 98 3-4, sells down to 97 3-4 and closes at 97 7-8. Grand Lodge Select Knights, A. O. U. W., convene at Bradford. Oil City Fuel Supply Company begins distribution of pipe through streets of Titusville, to supply the city with natural gas. U. P. L. sell at the Oil City Exchange 10,000 barrels of oil advertised to be sold for storage charges. P. C. Boyle takes charge of the Oil City *Derrick* and will steer it in the future. Gabby well, at Washington, drilling in close, white sand, destitute of oil; is 1 1-2 miles southwest of Gantz and found the sand at 2,294 feet. Beale's well, at Cogley, making 45 barrels a day. The Goff, Welsh & Co., No. 2, southwest of Balltown, warrant 5,214, through the sand and dry.

August 12. Market dull and lifeless. Well on Baum farm, Cogley, owned by Berlin & Martin, finds 12 feet of sand and shows for a small producer.

August 13. Quiet market; closes at 98 1-2. Barnum & Leasure well, on Maharg farm, near Reibold, through sand and dry.

August 14. First sales at 99, reacts to 98 5-8, advances slowly to 99 5-8, vibrates between 99 1-4 and 99 3-4 until the close, when it advances to 100 3-4. McGrew Bros', well, on the Mellinger farm, Butler county, down and dry. Boyd & Armstrong well, at Parnassus Station, a failure. Willard White's No. 2, on Rollin farm, north of Kinzua Village, reaches the sand and starts at over 200 barrels for first 24 hours work.

August 15. Market opens at 100 3-4 and is very active; New York begins to sell and values break to 99 3-4, which is the lowest point of the day; closes at 99 7-8 bid. Death of C. W. Isham, a well-known Bradford jeweler, at St. Vincent Hospital, New York, aged 45 years. Barnum and Jumbo day in Bradford.

August 17. Market opens at 100 and shows some strength, advances to 100 1-4 when, under heavy selling at New York and Pittsburgh, it breaks to 99 1-8 and closes weak at 99 bid. Weaver & Hamsher and John H. Logan granted permission by the Council to supply Bradford citizens with natural gas. Mayor Thomas strikes oil in a trench he is digging for his new refinery at Titusville.

August 18. Market dull; opens at 99 1-4 and closes at 99 1-2. First day of the Bradford Shooting Club Tournament. Death of B. I. Taylor, of Tarport, aged 40 years. Well on Miller farm, southwest of Cogley, makes good showing and extends development another mile. Burglars relieve Seeley's gun store of about $75 worth of guns, ammunition, knives, etc. Kiskamen well, near Sarver Station, on West Penn R. R., Butler county, through sand and dry. Galey Bros. & Co.'s No. 2, at Rochester, Pa., down and dry. Van Scoy well No. 2, Kinzua Village, showing for a duster.

August 19. Market opens at 100; Walker & Lowe heavy buyers in Bradford; advances to 101 3-4 and closes at 101 1-2 bid. Ninety-four wells in the Cogley Run district with an estimated output of 2,200 barrels per day. Three dusters reported from Butler county; Westerman Bros., on the Reep; Boyd & Armstrong, on the Broomfield, and Phillips Bros., on the Douglass farm. Large fire at Crystal Oil Works, Standard No. 6, Pittsburgh; building and machinery totally ruined; loss $40,000. Pew & Emerson well, on Gabby farm, Washington county, shut down at 2,337 feet. First joint of pipe of Oil City Fuel Company laid at Titusville. Pittsburgh Pipe Line meet with difficulty in crossing the West Penn R. R. at Herman Station.

August 20. Market opens at 101 3-4, falls off to 101 3-8, advances to 102, collapses to 100 7-8, rallies to 101 1-2, another break carries it to 100 1-2, recovers and closes at 101. Wind-up of the Bradford Shooting Club Tournament. Goettel & Roess find oil in the first sand at their well on the Haney farm, at Ten Mile Bottom, five miles east of Oil City, and create a little stir in the market by the discovery.

August 21. First sales at 101 1-4, breaking under heavy selling to 100 1-2, recovered to 101 and closes strong at 104; the highest point reached in eighteen

months. David Abbott while working on an oil well, near Rixford, receives injuries which shortly proved fatal. Mrs. Samuel Chambers struck by lightning at Titusville and instantly killed. The McKeever & McPherson well, on the Johnson farm, 1 1-2 miles southwest of the Speechley farm gassers, is 15 feet in the sand, with an abundance of gas. Freight train on Cleveland & Pittsburgh R. R., of eighteen cars, (six of which were loaded with oil) destroyed by fire at Cleveland.

August 22. Market opens at 104 1-2, breaks to 103 1-2 under heavy selling, rallies to 104 5-8, drops to 102 1-4 and closes at 102 3-8. Well on the Gordon farm, Washington county, reported flowing at 100 barrel rate causes weakness on the market. Carpenter Natural Gas Company reported to have struck oil at Whitcly Creek, six miles from Greensboro, Greene county, and four miles from old Dunkard oil region.

August 23 (Sunday). Robert Winkle struck by lightning at his home at Troy Centre, near Titusville, and rendered unconscious for four hours.

August 24. Market opens at 102, advances to 102 1-2, breaks to 101 1-4, at noon recovers to 102 3-8, slopes off to 101 3-8, advances slowly and at the last hour rallies to 103 5-8 and closes at 103. Gordon well flows five barrels in five hours. The Tuna overflows its banks on account of the heavy rains and the lower part of the city is flooded; two houses carried away and a great deal of damage done; fire alarm sounded at 4 A. M. and firemen turn out to rescue the people from the flooded houses; several feet of Bradford Water Works dam at Marilla Brook carried away. Lottie and Sadie Smith instantly killed, and Nettie, a little daughter of E. V. Dunn, seriously injured while crossing the track of the Allegheny Valley R. R., near Franklin, in a phaeton. Great flood at Corry and vicinity; many thousand bushels of oats destroyed and Mayor Sanford's brick yard damaged to the extent of $5,000.

August 25. Market active but weak; opens at 103 1-4 and closes at 101 3-8. Fire parade at Warren dampened by much water; Bradford represented by Johnson Hose and Era Hooks. Stock of Oil City Fuel Supply Company increased from $400,000 to $1,000,000. Gordon farm well, Washington county, makes 33 barrels for 24 hours, ending at 9 A. M.; will be shut down and mystified; no more gauges permitted. Dougherty well, on Daubenspeck farm, near Hooks City, is reported dry. Oil in first sand at Goettel well, Ten Mile Bottom, exhausted and work begun to drill deeper. Allegheny river at Oil City ten feet high; highest ever known in month of August.

August 26. Market active; closes at 102 1-8. The Kendall & Eldred and B., B. & K. trains fail to reach Eldred on account of high water near that place. Gordon well blossoms forth a full fledged mystery.

August 27. Market opens at 102 3-4; at the close advanced rapidly to 103 5-8. Nitro-glycerine factory of W. B. Roberts & Son, at Bolivar Run, near Tarport, explodes at 9:30 A. M.; two men engaged in the building have a narrow escape; loss 2,300 pounds of nitro-glycerine and 28,000 pounds of acid in drums valued at $3,000. Premium on lower country and middle field oil raised to 12 1-2 cents per barrel. Centennial Oil Company's well, on Ott farm, Butler county, strikes sand and shows for 30 to 50 barrel well. Kane & Hefferman well, on Mong farm, Cogley, reported dry.

August 28. Bearish rumors begin to prevail as to complexion of forthcoming monthly report and the market is broken by heavy selling; opened at 103 3-8 and closed at 101 3-4. Westerman well, on Ott farm, three miles east of Millerstown, reported good for 100 barrels; scouts estimate it at 25 to 40 barrels. Gurney Baldwin, aged 14, seriously injured while firing empty glycerine cans, near Bradford. Van Scoy No. 2, on Marsh farm, abandoned as a failure. Jack Bros'. wild-cat venture, in Rockland township, drilled below third sand and is dry.

August 29. Market ranges from 102 3-8 to 101 1-2; little interest manifested and closes at 101 7-8. William McDonald is knocked out of a derrick on Zane's lease of Quintuple tract by a loosened bull wheel and falls a distance of sixty feet; injuries very serious. Pittsburgh papers try to make a sensation over Leidecker well, on Hembold farm, northwest corner of Winfield township, Butler county, which they call the "Midnight Mystery;" well has a small showing of oil with salt water in top of 100-foot sand, which is 300 feet above top of regular oil sand. Thorn Creek gauge 1,946 barrels. Kane & Hefferman well expected to make a small pumper. Car containing 85 93-100 barrels of oil shipped from Gordon well.

August 30 (Sunday). The Westerman well, Butler county, filled a 250-barrel tank from 4 P. M. Saturday to 5 o'clock this afternoon; has three pay streaks in the rock.

August 31. Market opens weak at 101 3-4 and closes strong at 101 1-2. Natural gas explosion at S. S. Marvin & Co.'s cracker bakery, Pittsburgh, seriously injures five persons.

Use of Crude Petroleum in the Manufacture of Steel.

The Worcester Steel Works have introduced an apparatus for burning crude petroleum in their steel and iron manufactory at Worcester, Mass. The local paper gives the following description of the burner:

"The vapor is produced in a 'generator' which looks like a small brick furnace for heating a dwelling. A small upright boiler stands near it. This boiler supplies steam which is run through a system of superheating chambers in the generator, until at a temperature of about 700 degrees, it takes up the required amount of previously heated crude oil, and is carried into a retort or mixing chamber in the centre of the generator. This mixing chamber, which is double, with steam space between the outer and inner metallic wall, is heated by a fire beneath. Thus the oil and steam become perfectly mixed at a very high temperature, forming a rich, heavy vapor. This vapor is conducted through a two-inch pipe to the furnace, where it unites with many times its volume of hot air, producing a flame which for intensity of heat and freedom of smoke must be seen to be appreciated. The flame under perfect control, burns continuously, and is now producing 30 to 40 tons of steel every twenty-four hours. The fires used under both boiler and generator are made from this same vapor, so that the whole arrangement is complete within itself, giving an economical fire without ashes, cinders, sparks or smoke. The advantages claimed for petroleum vapor are economy, and, in furnaces, better quality of metal product. The latter claim is readily admitted, because of the freedom of this fuel from sulphur and other constituents of coal which are harmful to iron and steel. The saving of coal as fuel is claimed to be over 10 or 20 per cent. in making steam, 75 cents to $1.25 per ton of metal in making steel, and $1.75 to $2.25 per ton of metal in puddling furnaces."

THE RUSSIAN PETROLEUM INDUSTRY.

BY BOVERTON REDWOOD, F.I.C., F.C.S.

ontinued from Page 1060.

The average depth of the wells last year was 450 feet, having been in 1873, 154 feet; in 1880, 273 feet; and in 1882, 350 feet. It is estimated that the average level of the oil is lowered to the extent of 56 feet for every 500,000,000 gallons extracted.

The No. 18 well—Nobel Brothers'—which I saw spouting, has a depth of 721 feet. The boring was at first stopped at 500 feet, but the flow having ceased, the well was deepened. This well was struck three years ago. The depth of the famous Droojba well is 574 feet. I may add for comparison that 1,500 feet or more is now by no means an uncommon depth for petroleum wells in the United States.

Soon after the annexation of Baku by Russia in 1801, the attention of the Russian Government was turned to the natural wealth of this district, and the production of petroleum was at first farmed out as a monopoly to Meerzoeff. This continued until 1872, and from then until 1877 there was an excise duty. During the period extending from 1821 to 1872 the yearly revenue from petroleum monopoly was never far short of, and often exceeded, 100,000 roubles, and in the latter year it had reached the sum of 136,000 roubles. The output increased from 3,565 tons in 1840 to 24,800 in 1872, but in two previous years—viz., 1869 and 1870—the output exceeded 27,000 tons. In 1872 there were only two drilled wells, in addition to 415 pit wells, and the price of the crude oil was 45 copecks per pood (about £3 10s per ton). The following tabular statement shows the growth of the industry from the time when the monopoly was abolished:

PRODUCTION AND PRICE OF CRUDE PETROLEUM.

	Tons.	Price per ton. s. d.
1873	64,000	7 9
1874	78,400	6 3
1875	94,000	15 6
1876	194,000	7 9
1877	242,000	12 6
1878	320,000	8 8
1879	370,000	6 3
1880	420,000	3 8
1881	490,000	2 6
1882	680,000	2 6
1883	800,000	}
1884	1,130,000	} 2s 6d to 0 3½

The production of crude petroleum in the United States for 1884 has amounted to about three million tons and the price has ranged from about 16s to 32s per ton.

The specific gravity of the crude oil is usually between .870 and .875. Some wells have, however, yielded oil as heavy as .885, and others oil as light as .850. The specific gravity of the oil first obtained from Nobel's No. 18 well was .860, but upon the well being deepened the specific gravity fell to .854. The specific gravity of the crude oil now found in Pennsylvania ranges from about .800 to about .820. I have placed on the table samples of Russian and United States crude oil for comparison.

The crude oil is in the first instance conducted from the well through wooden channels to ponds or lakes, where it deposits the sand held in suspension, and it is then pumped into storage tanks prior to being piped to the refineries.

Formerly—that is, up to 1875—the transport of the oil to the refineries took place exclusively in the Persian carts or "arbas," I have already mentioned. These strange looking vehicles are entirely constructed of wood, the body of the cart simply resting on the wooden axle and the latter revolving with the wheels, which are often 8 1-2 to 9 feet in diameter. The felloes of the wheels being unprotected by tires, are made of great depth to allow for the rapid wear to which they are subjected in traversing the rough roads, and the wheel becomes in use of smaller and smaller diameter until its dissolution, which generally seems to occur unexpectedly at the most inconvenient time. In these carts two casks were conveyed, one in the body of the vehicle and the other slung beneath the axle. Thousands of these carts were in use prior to the era of pipe lines. It is stated that as much as £100,000 per annum was paid for thus transporting the crude oil.

The first pipe line from the wells to the refineries was laid by Messrs. Nobel Brothers, in the face of the most determined opposition on the part of the proprietors of the "arbas," who recognized that their business was threatened with extinction; and it is evidenced of the lawlessness prevailing in the Caucasus that Messrs. Nobel were compelled to erect a line of watch houses, wherein they stationed armed men to guard their pipe. Pipe lines have some time since been accepted by the native carters as a necessary evil, but there is still much jealousy among the well owners and refiners, and as the Tartars have no scruples about taking life, it is not safe for the visitor to traverse the district around Baku after dark without an armed escort, while even in daylight it is well to carry a revolver.

At the present time there are seven pipe lines for the conveyance of crude oil, the two largest, which are of the respective diameters of 6in. and 5in., being the property of Messrs. Nobel Brothers. A certain amount of crude oil is also transported to the refineries by rail. More than 700 millions of gallons per annum could thus be delivered at the refineries, the Nobel Company's two pipes alone having a carrying capacity of 176 million gallons per year. Several telephone wires connect the wells with the refineries.

(*To be Continued.*)

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

MONTH.	1879	1880	1881	1882	1883	1884	1885
January		110 1-5	95	83	92¾	111⅓	70¾
February		103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅜	80⅜
April	78⅜	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85¼	79⅛
June	68⅜	100¼	81	54½	117¼	68¾	82¼
July	69⅞	101¼	76½	57⅜	108	63½	96¾
August	67¼	103¾	78⅔	58⅔	108⅔	81 1-5	100⅜
September	69¼	95½	92¼	71¼	112½	78	
October	88⅛	96¾	92¾	93⅝	111½	71	
November	105⅜	91¼	82⅛	114⅜	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virginia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11,894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441
August	73,858	2,382

The Coal Trade of Pittsburgh in a Rapid Decline.

THE coal dealers of Pittsburgh, and the operators along the Monongahela Valley, feel the results of the introduction and general use of natural gas, most keenly. Mr. Barrows, the Secretary of the Coal Exchange, who is thoroughly posted on the subject, says:

"I firmly believe that if the use of natural gas increases during the next twelve months as rapidly as it has in the past twelve months, the greater part of our miners must seek work elsewhere or hunt up other employment. I am credibly informed that already the introduction of natural gas in our two cities has decreased the annual consumption of coal to the extent of about sixty million bushels. Keeling's mines alone, which are located in the First pool, have decreased their daily output nearly 15,000 bushels. This will throw into idleness about 200 men. The effects of natural gas on this mine illustrates a similar effect on many others.

"Almost all our mills have adopted natural gas as fuel in preference to coal. The success of the gas has generally been so satisfactory that even newspapers, hotels, and restaurants are one by one making the change. These business places each consume from 50 to 200 bushels of coal per diem. There are many of them in the aggregate and their total consumption amounts to a considerable figure in the year. Besides, I am certain that owners of private dwelling houses of any reasonable size will adopt the gas in preference to coal. It is true that most of the business places to which I have referred use only nut or slack coal. But if this is thrown on the market and can't be gotten rid of it will become an expensive burden on operators. This will naturally increase the price of lump coal, and this last result will, in turn, cause a weaker demand for saleable coal. This altogether will very seriously, indeed, affect our coal trade. We have about seventy mines on the river besides seven or eight railroad mines, I mean railroad mines on the river. When trade is fairly brisk the average number of miners employed at each mine is about 100. We do not use much of the coal shipped by river, but not only will the railroad mines be the sufferers, but the trade of the river mines will be injured both directly and indirectly. As I have already intimated, if our nut and slack coal cannot find a market we must charge a higher price for our lump coal and this will certainly tell against us in the keen competition going on between us and other coal districts.

"I have hope that the change will be beneficial ultimately, but much injury and suffering will take place at the beginning. However, capital and labor is sure to find other channels into which to go, as has ever been the case in the past."

The other side of this question is thus set forth by Mr. John Flannery, Secretary of the Miners' Association:

"Natural gas has done the coal mines about as much harm in this section as it is ever likely to do. It has thrown quite a number out of employment up to this time and has reduced the working time of others, but I think further harm will not be done. How do I reason that way? Well, you see, at best the introduction of natural gas can only injure the local coal trade, and outside of Pittsburgh and vicinity cannot possibly affect the coal trade as far as supply is concerned. And really but few mines, comparatively speaking, are dependent upon the local trade. The great mass of miners in the Pittsburgh district and adjoining bituminous districts are employed in supplying the Western and lake trades, neither of which can be lost to us by the use of natural gas in Pittsburgh and surrounding towns."

The Point Breeze Refineries at Philadelphia.

Nearly 4,000 men and boys are employed at the Point Breeze oil refineries, which cover 200 acres on both sides of the Schuylkill, and yield about a half million gallons of oil a day. The distillery is separated from the packing and delivery departments by the Gas Works, being in what is known as the Philadelphia Refinery. The crude oil arrives here from the oil regions at Bradford, McKean county, four hundred miles away, through six inch wrought iron pipes. It is forced along by powerful compound, duplex pumps at pumping stations, about seventy-five miles apart along the route, and is received into tanks varying from eighty to ninety feet in diameter and from twenty to thirty feet high. The average capacity of these tanks is 35,000 barrels. From them the oil is distributed among sixty-five stills, which have a gross distilling capacity of half a million gallons per day. It then reaches the agitators where it is treated with sulphuric acid and caustic soda. This treatment occupies a day. The product, fine illuminating oils and naphtha, is then placed in settling pans and storage, whence it is conveyed through pipes from half an inch to twenty inches thick to the case and barrel department where it is prepared for exportation.

In an auxiliary process, after the oil has been reduced to tar, paraffine is extracted from it. The residuum is frozen and pressed by hydraulic machinery producing paraffine wax and lubricating oil. In the early stages of the industry this residuum was wasted. About 18,000 pounds of wax used for candle making and 20,000 gallons of lubricating oil are daily packed in barrels and shipped abroad.

In the distillery there is some costly machinery, including a compound duplex condensing pump, which pumps five million gallons of water every twenty-four hours. It is as large as those used in the City Water Works and cost $14,000.

"We make all our own boilers and tanks," said the Superintendent, "and repair all our machinery. We have 350 men and boys in this department alone."

Upwards of 700 men are employed in the case factory and packing rooms, which turn out 24,000 cases every day. Each case is afterwards fitted with two five gallon tin cans, which are filled with petroleum for shipment.

PHILADELPHIA'S export trade in petroleum is increasing with great rapidity. During the first week in September over 6,000,000 gallons were shipped to foreign countries. This makes over 100,000,000 gallons of petroleum shipped from this port since the first of the quarter, against 54,000,000 up to this time last year.

THE runs from the Bradford field averaged 29,291, and from the Allegany field 7,102 barrels a day during August. For the same month last year Bradford averaged 33,782 and Allegany 10,384 barrels. Bradford's July runs were 30,657 and Allegany's 7,363 barrels per diem.

WE have a few sets left of vols. I and II of THE AGE that will be furnished to our regular subscribers at $3.00 a volume. Those wishing to complete their files for binding should do so at once, as the supply of these back numbers is quite limited.

IT is estimated that between sixty and eighty tons of nitro-glycerine are used monthly in the Bradford field.

THE PETROLEUM AGE,

DEVOTED TO THE

INTERESTS OF THE PETROLEUM TRADE.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR,
BRADFORD, PA.

W. C. ARMOR, Manager.
J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid).....$3.00 per Year, in Advance
Subscription Price (Postpaid).....$1.75 per 6 months in Advance
Foreign Subscription.....$3.50 per Year in Advance
Single Numbers.....30 Cents
The Bradford office of the AGE is in the Producers' Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

DURING the month of August 33 wells were completed in the Allegany field, two of which were dry. The new production is estimated at 207 barrels. This is an increase of four completed wells over the preceding month. On the 31st of August the field showed 35 new rigs, 42 old rigs and 57 drilling wells, an increase of 6 new rigs and 16 wells drilling over the report for July 31st. Operations are most active in the Clarksville section, and an increase is also noticeable in Alma. The light territory in South Alma is again attracting attention, and an experimental well several miles to the northeast, on lot 35, Scio, is now under way. Clarksville records a few very fair producers, but the new wells do not succeed in holding Allegany's production much beyond 7,000 barrels a day. The runs from this field average 7,102 barrels a day in August, 7,363 barrels in July, 7,680 barrels in June and 7,467 barrels in May.

BRADFORD FIELD.

There were 35 productive wells finished in the Bradford field in the month lately closed, with a daily yield of 357 barrels. On the last day of the month the record showed 31 new rigs, 38 old rigs and 59 drilling wells. This represents a total increase of 18 in the amount of work under way as compared with the close of July. The deep salt water territory on the southwest of the great northern region, invites the conservative producer, who is content with slow but sure returns for his expenditure of capital. The region known by the African sobriquet of Timbuctoo, supplies a few good wells of ten barrel calibre, and south of the Kissam and Quintuple tracts, a little exploration is being done. The pipe line runs from the Bradford field averaged 29,291 barrels a day in August, 30,657 in July and 30,662 in June.

WARREN AND FOREST.

The Middle field shows renewed activity in almost every section. Prospectors though, are not seeking for any new fields of the Cherry Grove stripe, but are confining themselves strictly to efforts to enlarge the outlines of older sections, and in this direction they have met with a fair degree of success. The large area of close pebble sand producing rock that extends from Stoneham, through Clarendon and Tiona, and is generally known as the Clarendon field, has been gradually extending its borders in nearly every direction. On the north and northeast, the developments at Stonehill, have resulted in the addition of a large number of small producers, and Benedict & Rockwell's latest ventures at Wardwell have succeeded in showing that the rock extends to the Allegheny river on the north. The venture of Miller & Odell, on the northwest corner of warrant 2,921, has indications that point to its becoming a small well. This is considerably in advance of the development at Wardwell, and extends the area of Clarendon territory several miles. The success of the Mitchell & Watson well, on lot 284, southwest of Tiona, marks an addition of nearly two miles of valuable territory in that direction. Shoelkopf, Horton & Co.'s well, northwest part of 245, started off much above the average of the Tiona wells, and property in this vicinity is held at very strong figures.

The new development north of Kinzua village has not been materially increased in area by the results achieved during the past thirty days. Willard White's No. 2, on the Rollins farm, started at about 225 barrels for the first twenty-four hours, and is still doing 100 barrels per day. Dr. Van Scoy secured a duster on the Marsh farm, and C. P. Collins & Co. are trying to make a small producer out of the salt water well they discovered in the same vicinity. Still farther to the southwest Herzell & Nesmith have drilled a dry hole on Whitman's island. There is still an opportunity for a belt to pass to the northeast. The Anchor Oil Company control the Morrison lands, eight hundred acres, which the new development must go through, if the field is to have an extension northeasterly. This company's first well, on the Morrison, completed the present month, started at 65 barrels. The failure of the wells on the Marsh farm has caused prospectors to turn their attention farther northward, and a number of wells is being started along the river above the Parker & White No. 2.

At Balltown, on the northeast, Noah Clark has secured some good wells on 3,195, and a considerable development is to be expected in that quarter. Captain Haight's 6-barrel well, on 3,198, west of the Cooper tract, is believed to afford a pointer for this new addition to Balltown's area. A well now under way on lot 754, in Cherry Grove township, will help test the extent of this fresh development.

East of Sheffield, and in the southwestern part of McKean county, the New York and Pennsylvania Fuel Company have recently completed a very large gas well on lot 213. Several other wells, with the same vapory product in view, are drilling in that vicinity.

There were 88 productive wells and 9 dry holes completed in the Middle Field during August. The new production is rated at 708 barrels. This is an increase of 16 wells and 164 barrels in the production as compared with July. On the 31st of August the field recorded 62 new rigs, 8 old rigs and 73 drilling wells. July 31st showed 52 new rigs, 13 old ones and 62 drilling wells.

THE LOWER COUNTRY.

The wild-catter in his range now sweeps the horizon from Crawford county to Little Washington, over thirty miles south of Pittsburgh. At the extreme northern end of his hunting ground he was signally unsuccessful in his search for new territory in August. The Anchor Oil Company drilled a dry hole on the Harrison farm, on the Spring Creek road, nine miles north of Titusville. It was located with the expectation of finding territory immediately west of that discovered by Milton Stewart during the past few months. At Grand Valley, east of Titusville, some new operations are reported.

Venango county also affords some attractions to the prospector and a number of experimental wells are constantly under way. Goettel & Co.'s venture, on the Haney farm, at Ten Mile Bottom, had a fair showing of oil in the first sand, but after pumping it for several days the owners concluded to drill it deeper with the

hope of finding more oil in the lower sands. Dale Bros. completed a second well below Freedom, in Rockland township, near their No. 1, which started at 50 barrels, and is rated as a 20-barrel pumper in our report. McPherson & Co. struck a heavy gasser on the Johnson farm, and Crawford & Co. discovered a duster on the Norway tract. Two dry holes and three small wells were finished at the southwestern end of the Bullion district. Operations are quite active on both sides of the river at Emlenton, but the new wells completed each month are small and the aggregate production adds little to the yield of the country.

Since the first of August the Cogley district has taken some long strides to the southwest and now exhibits to the trade a belt of territory over three miles in length. On the 25th of August there were 100 wells in the district having a production at that time of 2,500 barrels. Then the pipe line men and producers were making predictions on the summit of the production, which would be reached by the district during the progress of its development. The maximum yield for a day was placed all the way from 3,000 to 5,000 barrels. During August 52 wells were completed, having a new production on the last day of the month of 1,611 barrels. The Koch & Goettel No. 1, on the Marvin P. Hess farm, had been producing more than six weeks and was doing over 100 barrels daily at the close of August. The Baum well, on the Mong, had a yield of 15 barrels, and the Beal's farm well was producing between 30 and 40 barrels when the count for the month was made. The Sheasley well, on the Miller farm, at the extreme southwestern end of the district, though bothered with salt water, was showing for a fair pumper. On the last of the month there were 45 new rigs, 1 old one and 53 wells drilling, a total of 99. The Kane & Hefferman well, on the Mong farm, along the eastern edge of the field, was reported dry on the last of the month and since filled up slowly with a little oil. It will take several months to drill the territory now in sight in the Cogley field.

Butler county, through its midnight mystery, on Rough Run, has attracted more attention during the first eleven days of September than it has been able to command since the decline of Thorn Creek. The wildcatters in their wide range over the two old counties, which have contributed so largely to the world's supply of crude, have met with numerous reverses in the past three months and the month of August, which is now passing under review, furnished more than its quota of failures. The detailed list of wells finished in these two counties will show 18 dry holes for last month. Thomas Phillips, the level-headed producer, who is fruitful in theories concerning pools east of Thorn Creek, found a showing of oil in the fourth sand, on the Patterson farm, and struck a dry hole on the Byerly, still farther to the east. Westerman & Co., or the Centennial Oil Company, struck a well on the Ott farm, about three miles east of Millerstown, and 130 rods south of Hunter & Cummings' well on the Pontius farm, which for the twenty-four hours ending September 9th gauged 170 barrels. The drilling which has been done on the east and west sides of the Pontius farm well indicates that the streak or pool will be narrow. The well on the Ott farm is an agreeable surprise and will start the drill to vibrating in this locality on a larger scale. Up to September 10th the wells which have been finished on the Daubenspeck farm, in the Martinsburg district, west of the large pumpers of Edwards & Co. and Shorts & Co., indicate that the streak or pool does not extend in a westerly direction. The Conors & Fishel, Dougherty & Barnes and Sheidemantle & Adams wells, on the Daubenspeck, are dry, or as good as dry holes. Lockwood & Co.'s well, on the Bailey farm, will test the opening northwest of the best advance wells.

At St. Joe operations are quiet and only one well was drilling in advance of the producing wells to add to the fourth sand territory. There is a search going on for wells in the third sand on either side of the fourth sand streak. The Leidecker well, or the "Midnight Mystery," is located on the Helmbold heirs farm, on Rough Run, in the northwestern part of Winfield township. It is about three miles southeast of Hermann's Station. The well is mystified and in the hands of those adroit manipulators, Michael Murphy and M. K. McMullen. Thad. Sumner and Warren McCreary have the right of way about the derrick which would indicate that the Union Oil Company and Associated Producers have protected themselves against any surprises by purchasing a right to the first and inside information of the well. Thus far it is given out that the oil comes from a shallow sand above the level of the regular third at a depth somewhere between 1,200 and 1,470 feet. But up to the present definite information is not available to the public. The oil is reported to be amber in color and of light gravity and the well has made several flows.

WASHINGTON.

The trade ran squarely against a bearish surprise in the Washington field last month. On the 21st of August at a depth of 2,380 feet, the Citizens Heat and Light Company struck a new sand in their well on the Gordon farm, about 270 feet below the sand in which the Gantz well finds its oil. It is reported as a pebble of a grayish white color, and has afforded a well which has produced over 150 barrels in one twenty-four hours. At this writing they are still drilling and a full report cannot be made on the rock formation. At best operating in this section will be slow and expensive work. In the Gordon well, which is about half a mille west of the Gantz, there are over 3,500 feet of casing. It is reported to be telescoped as follows: There are 580 feet of eight inch pipe, 1,300 feet of five and five-eighth and 1,800 feet of the four and a quarter inch pipe. From the bottom of the last a three inch hole is drilled to the sand. When this well is tubed it will contain over a mile of pipe.

A Heavy Gasser for Jamestown.

THE New York & Pennsylvania Gas Company struck a heavy gasser Thursday, August 27th, on lot 213, Hamilton township, in this county. The officers of that corporation are: President, Peter Sheldon; Secretary, Geo. Sherman; Treasurer, George Tew. L. D. Wetmore, E. D. Wetmore, S. T. Neil of Warren, J. B. Bradley, E. C. Bradley and other well-known Pennsylvania and New York capitslists are largely interested. An eight-inch line will be laid from the well to Jamestown, a distance of 32 miles. The company will also run a plant into Warren. Mr. S. M. Ross, an experienced pipe line man, has charge of the pipe laying. The new gas well is to be tubed with 4-inch tubing, and securely packed. A rubber packer has been constructed that will stand a pressure of 600 pounds to the square inch. Besides the great weight of the tubing, the packer will be secured by the additional weight of a column of water that will occupy the space between the casing and the tubing. By these means the company will economize their gas supply and avoid the great waste that seems of necessity to be going on in all sections of the gas and oil fields. The well is 1,513 feet deep.

TWO FAMOUS SCOUTS.

J. C. TENNENT.

P. C. BOYLE.

THE OIL SCOUT is not too good to be comprehended, but he seems to be imperfectly understood by the outside public. He is neither an Indian-fighter nor a detective, nor is he a cross between the two, as some of the story papers and even the metropolitan dailies have pictured him. He is simply an expert in all matters that pertain to drilling and handling oil wells, and is employed to get information (usually under difficulties) for speculative or other purposes. A knowledge of wood craft helps him on his way through the wild wood-land where many test wells are drilled, and to succeed he must be a good judge of human nature and have the sleek ways of the polished city interviewer. If the detective instinct is strong in him and his mind is inventive and he can be patient and pay close attention to what may seem unimportant details, he has many of the elements which go to make up the successful scout. The oil scout who renders valuable services is often forced to arrive at conclusions from slender indicators, and in sending a message from a wild-cat well one mistake might cost his employer more money than a scout could expect to earn during a life-time. Though a life of hardship, it is strangely attractive to most of the men who follow it, and the portion of a man's career spent scouting is likely to be better remembered than what has gone before or may come after. It was not an uncommon thing for a field man during the busy years of 1882 and 1883 to keep his boots on four days at a stretch and find refreshing slumber on a pile of casing or on the damp ground under the hemlocks. Many nights have the scouts watched the stars twinkle as they reclined near and sometimes inside the guard lines, listening for the faintest sounds from the mystified wells.

The professional oil scout first became a factor in oil operations in 1877. He was ushered in with the great Bradford field, became prominent during the Cherry Grove excitement, and has since been inseparably connected with all developments that have exerted an influence on speculative values.

In this number of the AGE we present cuts with brief sketches of two men who worried the mystery men during the years 1882 and 1883. Though not the first in the business of scouting, through the command of practically unlimited means and a combination of circumstances they made the brilliant plays of the campaigns of 1882 and 1883. One was J. C. Tennent, then and now employed by Captain J. T. Jones; the other, P. C. Boyle, then in the employ of the Union Oil Company, and now the lessee and manager of the Oil City *Derrick*.

J. C. TENNENT was born at Avon, Livingston county, N. Y., on the 6th of June, 1852, and is now 33 years of age. When two months old his parents moved to Mumford, N. Y., where his boyhood days were passed. Mr. Tennent quit the pastoral scenes of the Empire State and came to Petroleum Centre in 1869. Here an experience in handling horses for Tom McDonald, proved valuable to him in after years when he became a participant in many wild races for telegraph offices with market-disturbing news. During the same year he began working on oil wells for Baum, Day & Co., on Cherry Tree Run, and continued with them for a year. After terminating his engagement with this firm he was employed by Wesley Chambers and passed three years looking after his wells at McClintockville and on Bear Creek. Tired of watching the wagging of the walking-beam, Tennent accepted employment with the Lake Shore R. R., and fired an engine in the Erie yard for a year. From Erie he went to his home in New York State and became an engineer in a planing mill and sash and blind factory. He remained here until 1877 when he returned to the oil country, landing in Bradford in March of that year. Meeting his old friend and employer, Wesley Chambers, he struck a bargain with him for further employment, and assumed charge of wells for the Bradford Oil Co. at State Line, in the Tuna Valley. In 1878 Tennent was superintending the Bradford Oil Co.'s wells on the Four Mile. It was here amid picturesque surroundings that our scout listened to the flowing wells and watched the movements of

the fair girl who, on the 14th of April, 1879, embarked with him on that alluring and yet mysterious sea of matrimony. After an experience of eleven years in handling oil wells and machinery Tennent did his first work at scouting at the Van Scoy well, which opened up the Dew Drop development in 1880.

In the Spring of 1882 his employer, Captain Jones, of the Bradford Oil Company, failing to get the information to which he was entitled concerning the mystery well on 646, became a heavy loser on long oil, when the initial gusher of the Cherry Grove field was opened up. He sent Tennent to Cherry Grove when the Anchor Oil Co.'s gusher was burning on 647, and "Jim," as he is familiarly called, has since been an interested observer of the doings of all manipulators in the wild-cat field.

Tennent's first job at Cherry Grove was watching Murphy's dry hole on lot 633 drilled through the sand. The next well which occupied the minds of the scouts was the Whale Oil Co's duster on lot 648. It had been drilled below the sand level and the tools allowed to rest in the bottom of the hole. In the dark hours of Sunday night July 9th, 1882, Tennent and four others raised the tools by hand from the well and with a steel line borrowed from the Forest Oil Co.'s office ascertained its depth. On the 7th of July the market opened at 49 3-4 cents, and on the 11th, after the scouts had reported the well dry, oil sold for 60 1-4 cents. Here was a rise of ten and one-half cents, due to the failure of one well. At this time the Green well on lot 671, near the southwestern end of the field, was guarded and attracting some attention. The use of a weight and line enabled Tennent to gauge the well at mid-day when the guards were all on duty.

The Mchoopany Oil Co.'s wells on lot 590, and numerous other test wells, kept a band of active field men constantly employed during the heated months of an exceedingly lively summer. The work of correctly gauging the production of the great white sand pool was industriously carried on, while the frontier wells were held under careful surveillance.

The Shannon mystery and the Cherry Grove pool had to be watched by the scouts at the same time. On one dark night when Tennent in company with J. H. Rathbun, a fellow-scout, remained on duty at the Shannon mystery, his earthly career came near being terminated. While moving along on all fours to get near the well he grasped the limb of a dead log in order to draw himself over it. The twig broke with a loud report, and the guard, whose station was close at hand, fired. The bullet whizzed past Tennent's ear and in close proximity to his head. Tennent made no mistakes in placing an estimate on the Shannon well, and the advancing market of the Fall of 1882 found Captain Jones loaded with oil bought at bottom figures.

In December, 1882, May, Kelly & Grandin's No. 3 was drilled deeper after market hours and responded at a rate which played havoc with the bulls at the opening on the following day. Tennent and the other scouts watched the well drilled deeper from points outside the guard lines. In his estimates on its production he reported it good for 900 barrels in the first twenty-four hours. The other scouts rated it much lower, and those who gave the correct figures sent them out as Tennent's estimate. The gauge on the next day showed the correctness of his judgment, which was based on the length of flows and the interval between them.

Tennent and his right bower, P. C. Boyle, aided by W. C. Edwards, were the schemers who made the brilliant play of the year when they drilled the May, Kelley & Grandin No. 4 below the sand level before the owners learned that the sand had been tapped. The methods employed and the financial pressure brought to bear on trusted employes will not bear analysis outside of the realms where mystery men and scouts measure strength for results to be used in the halls where gambling in oil bears the stamp of respectability. As a rule the scouts directed their best energies to correcting the false reports sent out by mystery men; but at the Grandin well they took the aggressive and got the better of honest men. At the No 4, which came in dry and proved a grand surprise to the trade, Mr. Boyle, that most enterprising scout, had the guards out to keep intruders from the well, and when Mr. Hague came to the well one morning with a bailer on his shoulder he could not gain admission to his own well until the contractor came to the guard line and gave orders to the guard to let him in.

Boyle and Tennent did some fine work at the Patterson well north of the Cooper tract. At the Shultz well Tennent had sent a man with messages on his horse to Sheffield, and remained on foot at the well. In order to make a quick trip to the pipe-line telegraph office, a half-mile from the well, he caught hold of the tail of the horse which Cappeau rode and kept along behind taking steps about a rod in length. Tennent stepped into the telegraph office and threw his messages down before the operator. A well known producer who was interested in the Shultz well had just finished writing a message and placing it on the operator's table with a ten-dollar gold piece, said it should go first. Tennent drew a coin of similar value from his pocket and laying it on his message remarked that it should go first. The operator thought from the look on Tennent's face that it would be policy to forward the messages in the order received, and so they were sent.

Tennent has been successful on the market and made over $25,000 operating in Macksburg lands. His health is robust, and he has the rugged physique to stand the exposure inseparable from the life of a scout. Where the hard lines are cast in the woods miles from the comforts and conveniences of civilization, he will divide his last sandwich and lend a comrade his coat. He is perrennially good natured, companionable and justly popular with all who know him.

PATRICK C. BOYLE was born in Donegal county, Ireland, in 1846, and was brought to this country by his parents while still an infant in arms. His boyhood days were passed at Brady's Bend, in Armstrong county, Pa. His education was imbibed principally in wet days and during stormy weather, for at those times the outside attractions of the field and grove were not so inviting as usual. The school house was always an irksome place for the restless spirit of the future oil reporter, scout and editor, and while still a boy in years, he entered the army, where the cavalry service made of him a bold and skillful horseman. Before and after his army career he devoted himself assiduously to that agricultural pursuit known as sowing wild oats. Mr. Boyle joined the motley throng at Petroleum Centre, in 1868, where he filled his first engagement with signal ability digging ditches for the Central Petroleum Company. From Oil Creek he floated with the tide back to Parker's Landing, where he learned that he was not a success at selling the producer machinery, though like many more of his countrymen, he has kissed the Blarney stone. The ditch again yawned before him, and as a last resort he again shoveled his way to the front. A short time afterwards he found work with the pipe lines and acquired a good reputation for skill and energy as a pipe line man. In 1875 Mr. Boyle began his journalistic career by writing

on oil region topics for the Pittsburgh *Leader*. Since that time he has been connected in various capacities with the following oil country papers: The *Laborer's Voice*, of Martinsburg, Millerstown *Herald*, Petrolia *Free Press*, Bradford *Era*, Oil City *Derrick*, Titusville *Herald*, *Petroleum World*, Olean *Herald* and Richburg *Echo*. He conducted the oil department of the *Petroleum World* with ability during the short career of that costly oil region enterprise. With the dawning of the Allegany field Boyle started the Richburg *Echo* and espoused the cause of the producers in their war with the Roberts' Torpedo Company. The *Echo* was one of the sharpest and sanciest little sheets ever thrown out by an oil region press. The individuality of its editor was manifested in every line. In it, the aggressive spirit of Boyle found full play and the right of the producer to the free and untrammeled use of nitro-glycerine never had a bolder champion. With the rush that followed the discovery of Cherry Grove, the Allegany field began to suffer neglect and soon afterwards the *Echo* ceased to be heard. Late in the summer of 1882 Boyle put in an appearance at the Forest county front in the dual capacity of newspaper reporter and scout. His introductory experience, with the band which Tennent was a leading member, was at the Shannon well, on the Cooper, and at Grandin No. 3, in the Balltown district. Soon after the Shannon well was struck he wished to test the gravity of the oil. Riding up to the guard line he discovered a derrick lamp hanging from the limb of a tree and containing fresh oil from the well. Taking a bottle from his pocket he cooly filled it with crude from the lamp before the nearest guard could remonstrate.

Just at dark one night, shortly after the above incident, Boyle was in the woods, near the Shannon well, on horseback, and wished to go to Balltown, about seven miles down the creek. There was no road or *bridle* path and the highway on the south side of the creek was roundabout and tedious in the extreme. Alone in the darkness of the night Boyle guided his horse down the precipitous declivity, that led to the Tionesta, and making a highway of the middle of the stream, rode over sunken logs and rocks, through shallow water and through deep down to the point where the Balltown road crosses the swiftly flowing waters. It was a dangerous deed, even in the broad light of day, and the adventurous rider was thoroughly drenched before he reached his destination that night. At noon the following day he was still thoroughly wet from his watery ride, but there was much to be done, and no opportunity was afforded for a change of garments.

Though coming late among the scouts Boyle proved a tireless rider and an indefatigable worker. He is full of resources and usually surprised the mystery men by some novel method of getting the information of which he was in pursuit. The night that he went with William Boyle and Tennent over the Tionesta to drill the Grace well below the sand level, it occurred to him to pay the ferryman at Dunham's Mills an extra fee not to answer any more calls that night, thus cutting off all chances of surprise while engaged in exploring the geological secrets of the earth's structure. At the well Boyle wrote an order to the drillers to deliver up the well to Mr. Tennent and signed it Pickwick. Each of the men in charge of the well consented to go to bed upon the receipt of $100.

It was Mr. Boyle's fertile brain that originated the plan of getting hold of the Grandin No. 4, and drilling it in before the owners ascertained what was concealed in the rock.

At the Patterson well he devised a code of tin horn signals by which the news could be transmitted to Gusher City. Messrs. Boyle and Tennent had taken such precautions at this well that the oil could not have been concealed had any been found. They had just about perfected arrangements to drill the Porcupine Oil Company's No. 4, or the Garthan well, in the sand, when Mr. Murphy opportunely arrived on the scene and checked negotiations. Some times Boyle, who was employed by the Union Oil Company, had to take charge of their test wells on the Cooper tract and mystify the scouts. At the Sherman well he showed his familiarity with their methods in effectually closing the avenues of information which he had often helped them to successfully traverse. The well was dry and he found out the result of the venture before his fellow scouts were able to learn its true inwardness. When he first came among the scouts he paid the liveryman a dollar to waken him every time any other scout took a horse during the night from the stable. Mr. Boyle went to Macksburg when Bradford operators began to drill in that section, and after watching wells for a time began the work of leasing lands for the Union Oil Company. At this business he scored an unqualified success, securing lands in a northeasterly and southwesterly direction for thirteen miles from Macksburg. Terminating his engagement with the Union Oil Co., he leased a large amount of lands on Federal Creek for Senator Bradley of Olean.

But his itching to write is stronger than the allurements of the field and finding an opening he has leased and become manager of the Oil City *Derrick*. Mr. Boyle is an original writer and everything which comes from his pen bears the stamp of his individuality. His thorough acquaintance with the oil fields, from Allegany to Macksburg, and a happy manner of putting things, make his contributions to oil country literature valuable and interesting. As Editor-in-chief of the *Derrick*, his characteristic vigor is already making itself felt in the columns of that paper.

Pyronaphtha.

The *Organ fur Oelhandel* gives an account of some experiments lately made in St. Petersburg with pyronaphtha, an illuminating oil which Beilstein, the celebrated Russian chemist, thinks will supersede kerosene. It is said to be wholly free from danger of fire, and burning kerosene is easily extinguished by it. Pyronaphtha itself can be readily put out by water. It burns with a bright light, and gives off no smoke or vapor, while the fact that it is a residual product of the Baku distillation of petroleum makes it cost less than kerosene.

BISHOP SIMPSON once delivered a lecture on American Progress, in which he failed to mention petroleum. President Lincoln was present, and as they came out of the hall he said to the Bishop, "You did not 'strike ile.'"

A VEIN of natural gas is said to have been struck near Blunt, Dakota, on the farm of Fred Coddington, at a depth of 142 feet. It is conducted through an 1 1-2-inch pipe and is used for domestic purposes by the farmer's family.

THE total visible supply of petroleum stocks in Europe on the 9th of August, including all that was afloat and loading for European ports, was 1,872,101 barrels, a decrease as compared with the same time 1884, of 375,727 barrels, and 914,907 barrels as compared with the same date of 1883.

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal Continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE.	Aug. 22, 1885. Barrels.	July 25, 1885. Barrels.
London	198,523	180,621
Trieste	.....	34,151
Seven Continental Ports	1,481,118	1,415,486
Total Stocks afloat and ashore	1,679,641	1,630,258
Increase in stocks since July 25	49,383	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1885. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS AUGUST 22, 1885.

PORTS.	Stocks week ending August 22		Stocks afloat week ending August 22.		Loading. Week ending August 22		Grand total stocks afloat and loading.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	228,807	94,619	29,472	31,104	27,300	72,800	285,579	198,523	43,817	56,491	52,715	57,022
Trieste	46,649	.....	22 814	.....	3,500	.....	72,963	.....	14,018	.....	7,223	.....
Bremen	852,855	461,454	13,451	43,554	11,000	38,000	877,306	543,008	136,413	86 959	104,938	73,575
Hamburg	259,745	235,988	72,467	49,324	65,500	61,000	397 712	346,312	210,099	182,739	125,068	127,593
Antwerp	213,661	101,697	15,586	25,772	79,500	64,000	308,747	191,469	135,629	64,355	87,081	69,618
Rotterdam	69,147	89,7 0	.....	19,329	.....	13,000	69,147	122,079	26,844	62 726	24,969	41,9 3
Amsterdam	54,748	54,905	1,225	.....	7,500	.....	63,473	54,905	38,702	53,870	24,890	26,336
Stettin	76,802	142,999	35,885	37,355	5.500	.....	118.187	180,354	71,047	120,924	31,892	36,337
Danzig	20,786	35,517	16,898	7,474	.....	.....	37,684	42,991	19,118	33 572	6,427	6,790
Total	1,547,744	1,122,310	155,512	182,808	169,000	176,000	1,872,256	1,481,118	643,852	605,145	405,265	382,222

	1882.	1883.	1884.	1885.
Total stocks Continental Ports	1,651,341	1,704,829	1,547,744	1,122,310
Total afloat, " "	256,945	21-,282	155,512	182,808
Total loading	158,300	216,800	169,000	176.000
Total	2,066,586	2,139,911	1,872 256	1,481,118
Afloat and loading for direct Continental Ports	.....	.....	38,000	72,000
" " " Baltic Sea, exclusive Stettin and Danzig	.....	27,000	10,600	65,900
" " " Total Continental Ports	2,066,586	2,166,911	1,920,856	1,619,018
" " " Total London	413,627	495,335	285,579	198,523
" " " English harbors, exclusive London	41,500	148,500	56,200	85,400
Grand total	2,521,713	2,810,746	2,262,635	1,902,941

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, JULY, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., AUGUST 22, 1885.

CUSTOMS DISTRICTS.	MINER'L, CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.
Boston and Charlestown, Mass	.....	.....	.....	.....	1,586,539	148,303	5,570	1,748	.....	.....	1,592,109	150,051
New York, N. Y	4,72 ,379	345,018	1,491,843	115,371	26,744,558	2,340,209	892,194	191,603	287,784	16,779	34,136,758	3,008,980
Philadelphia, Pa	4,099,699	286,174	437,404	29,039	12,725,678	1,085,882	42,117	5,452	.....	.....	17,304,898	1,406,547
Baltimore, Md	.....	.....	.....	.....	1,087,764	84,825	.....	.....	187,740	8,557	1,275,504	93,382
San Francisco, Cal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other districts	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for July, 1885	8,820,078	631,192	1,929,247	144,410	42,144,539	3,659,219	939,881	198,803	475,524	25,336	54,369,269	4,658,960
Total for July, 1884	4,950,489	362,322	990,151	77,539	44,827,398	3,969,337	749,063	163,540	753,992	44,511	52,271,093	4,617,249
Total for 7 months ended July 31, 1885	42,223,319	3,062,070	7,952,825	616,354	249,496,846	21,667,641	7,707,871	1,542,885	4,107,222	236,182	311,488,083	27,125,132
Total for 7 months ended July 31, 1884	36,995 977	2,992,287	4,849,525	405,509	228,153,641	21.395,027	6,534,457	1,328,379	3,127,656	208 840	279,66 ,276	26,330,042

CRUDE QUOTATIONS FOR AUGUST, 1885.

Day of Month and week.		BRADFORD.				OIL CITY,				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
S	1	98⅝	99½	98⅛	98½	98¾	99½	98¼	98⅜	98⅜	99½	98¼	98⅜	98⅝	99⅜	98¼	98¾
M	3	98¾	100	98¾	99¾	98½	99⅞	98¼	99¾	98⅝	100	98⅝	99⅞	98⅝	99¾	98⅝	99⅝
T	4	100⅛	100¼	98⅛	98⅜	99⅞	100¼	98¼	98⅜	100⅜	100½	98¼	98⅜	100⅛	100½	98¼	98⅜
W	5	98¼	99⅛	98	98½	98	99	98	98⅝	98⅜	99	98½	98⅝	98¼	99	98⅛	98⅝
T	6	98½	99⅜	98⅜	98⅞	98⅝	99¼	98⅜	99	98⅝	99⅜	99⅜	99⅛	98⅝	99¼	98⅜	99
F	7	99⅛	99¾	98¾	98½	99¼	99½	98⅜	98½	99¼	99½	98⅜	98½	99⅜	99⅜	98½	98½
S	8 Holiday.	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M	10	98½	99⅜	98⅜	98¾	98⅝	99⅜	98⅜	98¾	98⅜	99⅝	98¼	98⅞	98⅜	99¼	98¾	98⅞
T	11	98⅝	98¾	97¾	97¾	98¾	98⅞	97⅞	97⅞	98¾	98⅞	97⅞	98	98⅝	98¾	97⅞	97⅞
W	12	97⅞	98½	97⅞	98⅛	97⅞	98⅜	97⅞	98¼	98⅛	98⅝	97⅞	98¼	98⅛	98½	98	98⅜
T	13	98⅜	99	98⅛	98½	98½	99	98¼	98½	98	99	98	98½	98¼	99	98¼	98½
F	14	99	100¾	98⅝	100¾	98¾	100½	98¾	100⅜	98⅞	100½	98⅝	100½	98⅞	100½	98¾	100⅜
S	15	100¾	101⅞	99¾	99⅞	100¾	101	99¾	99⅞	101	101	99⅝	99¾	100½	101⅜	99⅝	99¾
M	17	100	100¼	99	99	99⅞	100⅜	99	99	99⅞	100¼	99	99⅛	100	100¼	99⅛	99⅛
T	18	99¼	99⅝	99	99½	99¼	99¾	99⅛	99⅝	99¼	99¾	99⅛	99⅝	99¼	99⅝	99⅛	99½
W	19	100	101¾	100	101½	99⅞	10 ¾	99⅞	101⅝	100	101½	100	101½	99¾	101¾	99¾	101⅝
T	20	101¾	102	100½	101	101¾	102	100½	101	102	102⅛	100½	101	101¾	102	100⅝	101
F	21	101¼	104	100½	104	101¼	103¾	100½	103⅝	101⅛	103¾	100½	103¾	101¾	103¾	100½	103¾
S	22	104½	104⅝	102¼	102⅜	104½	105	102⅝	102⅝	104¾	104¾	102⅝	102⅝	104	105	102½	102½
M	24	102	103⅜	101¼	103	102½	103⅜	101⅜	102¾	102½	103¾	101¼	102⅞	102½	103⅝	101¼	103
T	25	103¼	103¼	101¾	101⅜	103	103	101⅜	101½	103¼	103½	101⅛	101⅝	103	103	101½	101⅝
W	26	101⅝	102⅜	101⅝	102⅛	101½	102½	101½	102¼	101¾	102½	101⅝	102⅜	101½	102⅜	101½	102¼
T	27	102¾	103⅝	102¼	103⅝	102⅝	103½	102⅛	103¾	102½	103½	102⅛	103¼	102⅝	103½	102¼	103½
F	28	103⅜	103⅜	101¾	101¾	103½	103½	101¾	101⅞	103½	103½	101¾	102	103	103¼	101¾	101⅞
S	29	101⅞	102⅜	101½	101⅞	101⅞	102½	101⅝	101⅞	101⅞	102½	101¾	102	101¾	102⅜	101¾	101⅞
M	31	101¾	101⅞	100⅜	101½	101⅝	101⅞	100½	101¾	101⅞	102	100½	101½	101⅞	101⅞	100½	101⅜

AUGUST OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN AUGUST, 1885.

Allegany Field.

Twp.	Owner.	Barrels.
Scio, lot 1,	Applebee Bros No 6	10
" lot 2,	Coast Oil Co No 35	10
" lot 2,	Pennell Bros	5
Alma, lot 55,	W P Decker No 3	5
" lot 106,	Thornton & Dobbins No 4	3
" lot 86,	Shirley & Hochstetter No 5	6
" lot 85,	Assoc'd Producers' Co No 1	6
" lot 22,	Duke & Norton Oil Co No 13	2
" lot 120,	McCalmont Oil Co No 6	5
Wirt, lot 48,	Hatch & Phillips No 1	5
" lot 48,	Collins & Leonard No 1	dry
" lot 52,	(Burdick farm) Wilson Bros & Ackerly No 5	5
" lot 51,	(I Jordan farm) Lester, Jordan & Co No 3	8
Bolivar, lot 7,	Coast Oil Co No 44	5
" lot 7,	W & J Duke No 19	8
" lot 8,	Dewees & Donnell	8
" lot 8,	Anderson Bros & Bryson No 4	6
" lot 8,	Anderson Bros & Bryson No 5	6
" lot 23,	F C Streeter & Co No 7	5
" lot 45,	John Knox & Co	3
" lot 24,	Riley Allen	6
Clarksville, lot 20,	Ackerly & Samuels No 3	10
" lot 20,	Ackerly & Samuels No 4	12
" lot 21,	(Holmes farm) Ackerly & Samuels No 1	6
" lot 10,	Ross, Madison & Wasson	10
" lot 20,	Love, Penzer & Patterson No 3	10
" lot 28,	Penny & Co No 1	5
" lot 28,	Ash Warner No 1	5
" lot 60,	(C Jordan farm) Nat'l Transit Co No 57	gas
" lot 5,	Ackerly, Barton & Co No 1	10
" lot 10,	Angell Oil Co	8
Genesee, lot 8,	I Willetts, No 6	6
" lot 14,	(Bliss farm) C W Scofield No 12	8

Wells completed	33
Production	207
Dry	2

Bradford Field.

Warrant 2268,	R J Straight	8
Bingham,	Emery Oil Co No 18	10
Timbuctoo,	Amm & Co No 61	10
Rutherford,	J T Jones No 41	10
"	" No 42	12
"	" No 43	12
Stinson,	Asher Brown, No 12	8
Blair,	J J Carter No 24	10
Scott,	J H VanWormer	2
Seward farm,	Kemp & Laney	3
Pierce "	Roberts & Cook	5
Fisher,	Larrabee & Wheedon No 7	5
Hazelwood,	John P Zane No 4	8
M & D Pnr,	McKevett & Dickey No 11	8
E T Co,	Boyne, Penny & Coleman	5
C, B & H	Watson Oil Co No 36	10
"	J S Patterson No 6	8
"	Page, Walker & Co No 1	8
Stevens,	Wm Burns	6
VanCampen,	A F Bannon	4
Barse,	Union Oil Co No 36	10
Weston,	J L McKinney & Co No 5	5
Keating,	Forest Oil Co No 50	10
——,	L H Ballard	5
Campbell,	P L Golden	5
Bingham, lot 495,	Union Oil Co No 4	25
" lot 548,	" No 35	25
" lot 535,	" No 33	15
" lot 551,	" No 22	20
" lot 566,	Associated Producers' Co No 46	20
" lot 584,	" No 48	10
" lot 585,	" No 52	5
" lot 538,	C P Byron No 2	15
" lot 614,	Rose & McLeod No 8	15
" lot 585,	John McKeown No 1	20

Wells completed	35
Production	357
Dry	0

Warren and Forest.

Glade and other Towns.

Kinzua Village,

Marsh, T G	Phillips No 2	6
" "	No 3	8
"	Dr VanScoy No 2	dry
Marsh,	Phillips & Fogel	5
"	C P Collins & Co No 1	2
"	Parker, Hale & Co No 1	5
Rollin,	Borchert & Smith No 1	10
"	Willard White No 2	80

Warren.

Wardwell,	Benedict & Robinson No 21	8
"	(Island No 2) Coggswell, Pratt & Co No 1	5
Cobham,	Union Oil Co No 25	10
Irvine,	Brown Bros No 7	10
Struthers,	Fred Hayes No 3	3
Cemetery lands,	S A Logan No 3	5
"	Eldred, Sill & Barnsdall No 1	3
James Roy,	James Roy No 20	8
Still,	Magee, Cogswell & Co No 1	3
Eddy,	Butts, Harley & Co No 3	5
McWilliams,	Pickett & Stone No 10	8
Irvine,	T J Melvin No 6	10
Wm Scott,	Hackett & Shirley No 1	5

Wells completed	21
Production	189
Dry	1

Clarendon.

Lot.		
35,	Hazeltine & Bell, No 6	5
35	" No 7	6
35,	J Smith & Son No 4	6
36,	Borchert & Smith, No 7	6
35 & 53,	Thompson & Collins No 10	7
53,	Union Oil Co No 27	gas
496,	D Beatty & son No 8	6
496,	" No 9	8
497,	Porter & Tupper No 5	6
499,	E O'Donnell & Co No 5	5
494,	M A Kemp No 12	6
80,	Thayer & Crosby No 9	8
107,	W B Roberts & Son No 14	6
108,	Thos Hackett No 2	7
—,	McIlwaine & Co No 3	6
558,	Goal Bros No 13	5
558,	" No 14	6
558,	" No 15	7
558,	Patterson & Tait No 39	4
530,	H B Porter	6
527,	F H Rockwell & Co No 14	6
525,	" No 15	5
557,	Charles Duffield, No 2	5
592,	Clark, Foster & Co No 4	8
557,	Town Bros No 6	6

Wells completed	25
Production	145
Dry	1

Tiona.

Lot.		
82,	J L & J C McKinney No 1	6
82,	" No 2	6
103,	" No 2	8
103,	" No 6	7
103,	" No 11	6
103,	" No 14	6
103,	" No 15	7
104,	" No 5	8
165,	" No 9	6
165,	" No 10	6
104,	R R Armor No 4	5
104,	" No 5	6
108,	M J Seymour, No 1	4
109,	O'Donnell, Hill & Co No 3	6
109,	J R Kuhn & Co No 9	8
163,	Helm & Hague No 8	5
200,	Bovee & Duck No 3	4
201,	L H Best No 5	5
204,	Wesley Chambers No 8	6
204,	Mandell Oil Co No 4	5
204,	W J Wood & Co No 8	6
204,	Booth, Bovaird & Seyfang No 14	8
205,	Brabt & Co No 2	5
205,	O'Neill & Co No 2	4
905,	(Farnsworth) E O Emerson No 10	6
240,	(Tidewater) " No 3	6
204,	(Hagne) " No 7	6
205,	H B Beatty & Co No 14	5
240,	Cochran Bros No 4	4
241,	F W Winger No 12	8
241,	L Kraeer & Co No 11	8
241,	" No 12	8
241,	" No 13	8
241,	" No 14	8
244,	Horton, Crary & Co No 1	4
282,	Shaelkopf, Horton & Co No 1	3

Wells completed	36
Production	217

Cooper District.

321,	Murphy & Ray	dry
Cooper Div 1,	Clark & Foster No 2	dry
408,	McCalmont Oil Co No 20	10

Wells completed	3
Production	10
Dry	2

Balltown.

3198,	Haight, Agnew & Co No 2	6
3195,	(Crissman) N F Clark No 2	30
3195,	(Stone) N F Clark No 3	25
3195,	" " No 4	20
4821,	Balltown Oil Co No 24	30
4792,	Howe Oil Co No 17	dry
5215,	May, Kelly & Grandin No 35	30

Wells completed	7
Production	141
Dry	1

Miscellaneous.

Limestone twp, 5204,	J G Tipton farm, Economite Co	6
Southwest twp,	Kepler & Co	dry
Forest Co, 5214,	Welsh, Goff & Co No 2	dry
Deerfield, 164,	Beardsley & Co	dry
McKean, 213,	N Y & Pa Fuel Co	gas

Wells completed	5
Production	6
Dry	4

Lower Country.

Venango.

Farm.	Operator.	Barrels.
Young,	Lee & Co	5
David Porter,	Dale Bros (est)	20
Button,	Orr & Son	4
Lee Hicton,	Roess Bros No 8	4
Wilson (Spring Creek)	Milt'n Stewart (est)	5
Harrison,	Anchor Oil Co	dry
Sands,	Fisher Oil Co	5
Johnson,	McPherson & Co	gas
Rockland,	Jackson Bros & Harley	dry
Diamond,	J B Smithman No 2	6
Siverly,	Shingledecker	2
Smrena,	Hovis & Co (est)	10
Plummer,	Kerr & Co	dry
Dougherty,	Hoffman & Co	5
Hyois,	Gilbert & Co	10
Kenderdell,	Riddle & Co	dry
Berringer,	Berringer Bros (est)	10
McKinney,	McKinney Bros	3
Mt Hope,	Shepherd & Co (est)	5
Norway,	Crawford & Co	dry

Vicinity Emlenton.

McCullough,	Messer & Shepherd	3
Thos Ritchie,	Ritchie Heirs	1
Haldeman,	Haldeman & Goodrick	5
Eli Osman,	Porterfield & McCombs	3
Sloan,	Sherry & McKnight	10
D M Crawford,	Wilkins & Messer No 2	8
Cross,	S W Phillips (est)	8
Sloan,	Stevenson & Co	10
D M Crawford,	A A Haskins	3
Ed Crawford,	Jamison & Co	dry
Irwin,	Wilson Bros & Co	dry

Wells completed	31
Production	145
Dry and gas	8

Clarion.

Cogley Run.

Klnnemuth,	McIntyre & Hogan	4
Gibbs,	Ashland Oil Co No 6	60
Riekenbrode,	" No 3	60
Strutman,	Crawford & Brother No 4	15
"	" No 5	10
"	Roess Bros No 2	65
Rachus,	Crawford & Co	dry
Fisher,	Cogley Oil Co No 7	20
"	J B Smithman No 4	50
Frederick,	Booth, Gifford & White No 3	10
Berlin,	Patterson & Leedom No 4	30
"	" No 5	40
Shorts P H	Judd & Co No 2	8
Fern,	White & Gifford No 1	50
M P Hess,	Koch & Goettel No 2	30
"	" No 3	75
Young,	Urquhart & Lavens No 7	8
"	" No 8	10
"	Crawford & Bro No 4	25
"	Hale, Moriarty & Co No 2	20
"	Young & Stover No 2	5
"	McIntyre & Woods No 3	10
"	Staley & McDonald No 5	40
Fowls,	McCalmont Oil Co No 1	75
"	" No 2	75
Ben Hess,	J B Smithman No 1	75
"	" No 2	50
John Deitrick,	Koch & Co No 1 (est)	20
"	Staley & McDonald No 1	75
"	" No 2 (est)	35
"	Holt & Morrison No 1	50
M P Hess,	Urquhart & Lavens No 1	50
"	" No 2 (est)	50
"	" No 3	50
Henel,	" No 1	60
Hale's Mills	Ashland Oil Co	dry
Heeter,	Heeter & Heeter	15
"	Hulings & Co	5
Frederick,	Cogley Oil Co No 1	20
"	Phipps, Maxwell & Co (est)	20
W L Hess,	Koch Bros	60
Labrum,	Moore & Co (est)	10
Beals,	Beals, Hunter & Co	35
Mechlen,	Becker & Dunn No 1 (est)	10
Miller,	Sheasley & Co	15
Mong,	Kane & Hefferman	dry
Long,	Magee, Heasley & Co	dry

Gillingham, Doyle, Gill & Co No 1 25
" " No 2 (est) .. 50
Baum, Baum & Co (est) 18
Black, Black 3
Baker, Irwin 15

Wells completed 52
Production 1611
Dry 4

Butler and Armstrong.

Various Sections.

W L Brown, Nutting, Morrison & Co .... dry
Brownfield, W L Smith & Co 2
McClelland, A Crittenton 3
Jennings, Jennings No 4 4
Eli Reep, Reep & Sutton ..... dry
Storey, Hazelwood Oil Co 20
Keister, Phillips Bros ..... dry
Mrs Ott, Westerman & Co (est) 50
Reep, " ..... dry
West Liberty, Phillips Bros (no sand) .. dry
Douthett, Straight Run Oil Co ..... dry
Mills, Munhall & Co ..... dry
Marks, Fisher Oil Co ..... dry
Centreville, " ..... dry
Maharg, E H Barnum & Co ..... dry
Buhl, Clark & Foster ..... dry
Parnassus, Boyd, Armstrong & Co ..... dry
Patterson, Phillips Bros No 1 3
Byerly, " ..... dry
Sandy Lick, Kiskaddon & Co ..... dry

Martinsburg.

John Kelley, Jordan & Co (est) 10
D P Kelley, Brawley Bros No 2 20
Bartley, Walker & Clouse ..... dry
Story, Brown & Stanton 3
Abner Kelley, Hooks & Black ..... dry
" W A Kelley & Co 3
Thos Kelley, Manifold, Conley & Co 30
H S Daubenspeck, Dougherty & Barnes .. dry
Thompson, Tash & Co ..... dry
John Kelley, W A Kelley & Black 12
" McNeese & Smith 12

St. Joe.

Mnenster, Phillips Bros No 7 30
Clouse, " No 4 15
Martin, Ireland & Hughes 6
Sales, McGuire & Co (3d sand) 2

Thorn Creek.

McLaughlin, Clark & Co No 3 25
Noel, H H Stowe No 4 10
Renfrew, Christie Bros 25

Wells completed 38
Production 285
Dry 17

DRILLING WELLS,

RIGS UP AND BUILDING AUGUST 31, 1885.

Allegany Field.

Scio.

Lot	Owner.	Depth.
3,	Coyle (old)	rig
4,	H Breckenridge (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7	1000
12,	" No 10 (old)	rig
50,	Union Oil Co (old)	2 rigs
1,	Applebee Bros No 7	300
1,	" No 8	rig bldg
1,	(Swift farm) Manhattan Oil Co No 8	200
1,	Pickering & Smith	1000
2,	Coast Oil Co No 36	300
2,	" No 37	rig bldg
2,	Pennell & Co No 1	rig
2,	(Ketchum farm) Riley Allen	sand
51,	Duke & Norton Oil Co No 53	rig
35,	Allentown Oil Co	500

New rigs 4
Old rigs 6
Drilling 7

Total 17

Alma.

23,	Vanee & Horton (old)	3 rigs
24,	New Milford Oil Co (old)	2 rigs
24,	W F Jones (old)	rig
26,	Willetts & Elliott (old)	rig
51,	Sawyer & Co (old)	rig
78,	Towry & Pirden No 3 (old)	rig
88,	Duke & Co (old)	rig
142,	Dean & Smith No 5 (old)	rig
123,	McCalmont Oil Co No 7	drilling
120,	"	2 rigs
106,	Thornton & Dobbins No 5	300
106,	O'Connor & Shanley No 4	1000
108,	Shirley & Hochstetter No 1	sand
85,	" No 2	sand
85,	" No 3	rig
86,	(F & Co Pur) " No 5 (old)	rig
109,	" No 1	rig
85,	Associated Producers' Co No 2	150
22,	(Allen farm) Duke & Norton Oil Co No 51	300
22,	(Allen farm) Duke & Norton Oil Co No 54	rig bldg
19,	Duke & Norton Oil Co No 52	50
36,	John Browning No 1	800
36,	" No 2	rig bldg
37,	Perrin & Young, No 9	sand
37,	" No 10	drilling
37,	" No 11	rig
37,	" No 12	rig
1,	Phillips Bros No 17	700
3,	Triangle Oil Co No 16	300
4,	C W Scofield, No 6	100
20,	W F Coast	600
140,	Willetts, Duke & Rauber	drilling
62,	(Willing) E T Johnson No 2	1000
65,	" Shirley & Hochstetter No 1	rig bldg

New rigs 9
Old rigs 12
Drilling 17

Total 38

Wirt.

14,	Lester & Co (old)	rig
52,	Allegany Gas Co (old)	rig
48,	Hatch & Phillips No 2	300
48,	Love & Co No 1	300
52,	(Burdick farm) Wilson Bros & Aekerly No 6	500
52,	(Burdick farm) Wilson Bros & Ackerly No 7	rig
51,	(I Jordan farm) Lester, Jordan & Co No 4	drilling
52,	Johnson, Lovell & Rumsey No 1	800
52,	" No 2	700
52,	" ----	2 rigs
34,	J S Patterson No 2 (old)	rig
48,	R W Evans No 1	600
48,	Higgins & McQueen No 1	300
63,	(Hyde farm) Ackerly, Barton & Co No 1	drilling
33,	Wellman, Miner & Fuller (old)	rig
33,	" ----	rig
50,	Kern's lease, E T Johnson No 2	drilling

New rigs 4
Old rigs 4
Drilling 10

Total 18

Bolivar.

4,	(Cole tract) Matson & Thompson No 1	sand
4,	" Conroy and Johnson	500
7,	Coast Oil Co No 33	sand
7,	" No 35	1200
7,	" No 38	rig
7,	W & J Duke No 20	800
7,	" No 21	rig bldg
8,	Anderson Bros & Bryson No 6	500
15,	Sawyer & Co (old)	rig
23,	F C Streeter & Co No 8	200
23,	Irwin & Morgan (old)	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	" No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
57,	A J Thompson	drilling
63,	Johnson & Northrop No 14	800

New rigs 2
Old rigs 5
Drilling 9

Total 16

Clarksville.

9,	Heuston & Brecht No 4 (old)	rig
9,	Merritt (old)	rig
20,	Ackerly & Samuels No 5	300
20,	" No 6	rig
20,	" No 7	50
20,	" No 8	rig
20,	" No 9	rig bldg
20,	" No 10	rig bldg
21,	(Holmes farm) Aekerly & samuels No 2	drilling
5,	(Congdon farm) Aekerly, Barton & Co No 2	sand
5,	(Congdon farm) Aekerly, Barton & Co No 3	rig bldg
5,	(Bradford farm) Ackerly, Barton & Co No 1	sand
5,	(Hamilton farm) Ackerly, Barton & Co No 1	rig bldg
13,	Aekerly, Barton & Co No 2	sand
13,	" No 3	rig bldg
14,	Aekerly & O'Neill No 1	sand
14,	" No 2	rig bldg
13,	Bronson, Sharp & Aekerly No 1	sand
13,	" No 2	rig bldg
10,	Whipple & Davis No 11 (old)	rig
10,	Angell Oil Co	rig
20,	Lord & Whitnall No 1	700
20,	" No 2	rig
29,	Hogan & Murphy No 1	rig bldg
20,	(Zimmerman farm) Clarksville Oil Co No 3	50
28,	Plummer, Wood & Co No 1	sand
28,	Coast & Finnegan No 1	400
28,	(Butts farm) Love, Penzer & Patterson No 7	300
28,	" No 8	rig bldg
28,	Penny & Co No 2	rig
28,	Ash Warner No 2	rig
60,	(C Jordan farm) Natl Transit Co No 58 (for gas)	rig

New rigs 16
Old rigs 3
Drilling 13

Total 32

Genesee.

14,	Merwin (old)	rig
21,	Empire Gas Co (old)	rig
22,	I Willetts No 14 (old)	rig
22,	" No 15 (old)	rig
22,	" No 16 (old)	rig
22,	" No 17 (old)	rig
22,	" No 18 (old)	rig
22,	" No 19 (old)	rig
23,	Hughes & Conghlin (old)	rig
23,	Emery Oil Co No 16 (old)	rig
23,	" No 17 (old)	rig
	Champlain Emery Oil Co No 8 (old)	rig
29,	William Cranston (old)	rig
38,	S E Young (old)	rig
38,	Empire Gas Co (old)	rig
15,	Dusenbury & Wheeler	drilling

New rigs 0
Old rigs 15
Drilling 1

Total 16

Bradford Field.

East and West Branches.

	Paton, McClure & Co (old)	rig
	Clark, McCray Bros (old)	rig
	Willis, do (producing)	550
	Glass, Barnsdall Bros (old)	rig
	Blair, J J Carter No 25	300
	Dent, P C L & P Co No 64 (old)	rig
	" " No 65 (old)	rig
	Wilson, West Branch Oil Co No 11 (old)	rig
	Cary, W H Duncan No 4 (old)	rig
	Mack, Fisher Bros No 19 (old)	rig
	Hinchey, McMurray Bros No 6 (old)	rig
	Mack, Columbia Oil Co (old)	rig
	Whittaker, Frank Davis No 3 (old)	rig
	Clark, Rolfe Bros No 27 (old)	rig
	Dent, Whitney & Wheeler No 40 (old)	rig
	Dikeman, " No 28	rig
	Rutherford, J T Jones No 44	1200
	" " No 45	rig
	" " No 46	rig
	Moody, A K Darrow	1200
	Tunbnetoo, P W Roth No 5	sand
	" Amm & Co No 62	rig
	" Atlas Oil Co No 14	sand
	" " No 15	700
	" " No 16	rig
	" lot 107, R J Straight No 6	300
	Tuna't Coal Lands, Waugh & Porter No 5	1400
	Warrant 2258, VanVleek & Mitchell No 33	sand
	" 2268, " No 4	rig
	" 2268, R J Straight No 15	50
	Dent, Emery Oil Co No 25	1000
	Taylor Tract, Enterprise Transit Co No 36	rig bldg
	Stinson, Asher Brown No 13	300
	" " No 14	rig bldg
	" Connolly Bros	drilling
	B O Co, Chapin & Co No 1	100
	Crooker, Jennings & Curtis No 11	600
	Craft, Areher & Roy No 13	100
	Hatfield, Wesley Chambers	rig bldg

Quintuple.

25,	C W Seofield (old)	rig
44,	J W Humphrey (old)	rig
220,	Clark, Stearns & Co (old)	rig
260,	E T Howes (old)	rig
286,	Jennings & Curtis	800
—,	Camp & Zane No 12	200
—,	" No 13 (old)	rig
—,	" No 14	rig bldg
105,	Smith Semen & Co	rig bldg

New rigs 11
Old rigs and shut down 19
Drilling 18

Total 48

Kendall Creek.

	Melvin, P C L & P Co No 85 (old)	rig
	" " No 86 (old)	rig
	" " No 87 (old)	rig
	Borden, Urquhart & Lavens (old)	rig

Morton, Dan Clark No 3 250
" " No 4 (old) ..... rig
Willets, I Willets (old) ..... rig
Dunham, Williams & Kilbury No 8 .. sand
Tram Hollow, H M Miles ..... drilling
" " ..... rig
" " ..... rig bldg
Norton, F W Mitchell ..... sand

New rigs 2
Old rigs 6
Drilling 4
Total 12

Foster Brook.

E T Co, Utter & Co (old) 1400
" O A Childs & Co No 18 400
" lot 53, Watson & Shaffer No 1 rig bldg
" lot 61, " No 2 rig bldg
C B & H, Watson Oil Co No 37 ..... rig
" C Wilder 200
" Juter & Yager (old) ..... rig
" Page, Walker & Co No 2 .. 500
" " No 3 .. rig
" W W White No 9 ..... rig
" R Y Mitchell ..... drilling
" R J Straight ..... rig bldg
" Argue & Williams No 5 .... rig bldg
" J S Patterson No 7 300
" Bulger & Dana ..... rig bldg
" Bird & Lincoln No 12 ..... drilling
Foster, C C Kerr No 2 ..... rig

New rigs 9
Old rigs and shut down 1
Drilling 7
Total 17

Four Mile.

Van Campen, Wm M Brown (old) ... rig
" Bronson & Perrin Bros ... sand
" Wm Doe No 8 ..... sand
Waters, Griffin & Howard No 2 (old) rig
C B & H, James Smith (old) ..... rig

New rigs 0
Old rigs 3
Drilling 2
Total 5

Indian Creek.

North Branch, J D Downing & Co (old) ..... 2 rigs
Hamlin, Miller & Odell No 4 (old) ... rig
Dodge, Shear Bros No 11 1200
Barse, Reeves & Bussell ..... drilling
" M Miller ..... drilling
" R Buchanan ..... drilling
Morse, Morse & Brown (old) ..... rig
Miles Loop, Union Oil Co No 25 300
Hamlin, Forest Oil Co No 34 350
" " No 35 ..... rig bldg
" John Oberlin 450
Weston, J L McKinney & Co No 6 .. 300
" " No 7 .. rig bldg
——, Dusenbury, Wheeler & Co ..... drilling
Loop, Manhattan Oil Co ..... sand
Windsor, Manhattan & Cowles No 2 .. rig
Vaughn, Martin & Co ..... drilling

New rigs 3
Old rigs 4
Drilling 11
Total 18

Cole Creek.

Rew, Capt E Frawley ..... drilling
Rew, Perry Tinman ..... drilling
Warrant 2263, Union Oil Co No 6 (old) rig
" 2263, " No 7 (old) rig
Bingham, lot 536, " No 31 (old) rig
" lot 536, " No 32 ..... sand
" lot 495, " No 3 (old) rig
" lot 573, " No 23 (old) rig
" lot 575, " No 40 1600
" lot 537, " No 42 300
" lot 548, " No 43 100
" lot 569, " No 41 ..... rig bldg
" lot 495, " No 5 100
" lot 583, Assd Producers Co No 5 .. 100
" lot 591, T J Melvin No 9 .. 1500
" lot 547, C P Byron No 1 ... 400
" lot 538, " No 3 ... rig bldg
" lot 585, Jno McKeown No 2 14 0
" lot 576, Rose & McLeod No 1 .. 50
" lot 576, " No 2 .. rig bldg
Emerson, John Gilbert 1000
Haskell, Backus & Co ..... rig
Smethport Borough, Gas Co (for gas) drilling

New rigs 4
Old rigs 5
Drilling 14
Total 23

Kinzua.

Warrant 3084 Union Oil Co No 59 .... sand
" 3076, " No 60 ... rig
" 2243, Emery Oil Co No 41 .. sand
" 2243, " No 42 ... rig
" 3089, P T & W T Kennedy No 1 400
Lot 137, " 1500
Niles tract, Chapin & Co No 7 600

New rigs 2
Old rigs 0
Drilling 5
Total 7

Warren and Forest.

Glade and Other Towns.

Kinzua Village.

Marsh, C P Collins & Co No 2 ..... rig
" " No 3 ..... rig
" " No 4 ..... rig
Wm Marsh, " 100
Fuller, Campbell & Parker ..... rig
Whitman Island, Nesmith & Hertzell sand
Rollin, Borchert & Smith No 2 600
" " " No 3 ..... rig
" Willard White No 3 100
English, Wm Fogel ..... rig
" Brown & Co ..... rig
" Porter & Conley ..... rig
Swift, " No 2 ..... rig
Culbertson " ..... rig bldg
Morrison, Anchor Oil Co No 1 500
" " No 2 200
" " No 3 ..... rig

Warren.

Wardwell, Benedict & Robinson No 22 sand
" " No 23 rig
" " No 24 rig
James Roy, James Roy No 21 ..... rig
Hook, Mac Nesmith ..... rig
Island, Coggswell & Co No 2 ..... drilling
2921, (Mead) Miller & Odell ..... drilling
2921, " C C Duffield & Co ..... rig
Rollin, (Glade) Butts, Harley & Co rig
McWilliams, Picket & Stone No 11 .. rig bldg
Irvine, T J Melvin No 7 ..... rig
Wm Scott, Hackett & Shirley No 2 .. 200
" " No 3 .. rig
Rogers, Barnsdall Bros No 14 (old) .. rig
" " No 15 (old) .. rig

New rigs 21
Old rigs 2
Drilling 9
Total 32

Clarendon.

35, Hazeltine & Bell No 8 ..... drilling
35, J Smith & Son No 5 ..... drilling
36, Borchert & Smith No 8 ..... rig
54, D Beatty & Son No 36 (old) ..... rig
78, " (old) ..... 2 rigs
35 and 53, Thompson & Collins No 11 sand
" " No 12 drilling
" " No 13 rig
496, D Beatty & Son No 10 ..... drilling
496, " No 11 ..... rig bldg
496, Wm O Neil No 3 ..... sand
496, Fred Hue No 16 ..... rig
496, Magee, King & Co No 10 ..... rig bldg
463, Bines & Co ..... drilling
499, Patterson & Solliday No 3 200
499, E O'Donnell No 6 ..... rig
465, Wm Pagett No 4 100
80, Thayer & Crosby No 10 500
80, " No 11 ..... rig
80, Johnson Irvine No 4 150
80, " No 5 ..... rig bldg
108 C H Filkins (old) ..... rig
108 Thos Hackett No 3 ..... rig
558 Goal Bros No 16 ..... drilling
558 " No 17 ..... drilling
558, " No 18 ..... rig
558, " No 19 ..... rig
558, Tait & Patterson No 40 100
555, J D Beers No 1 500
557, Dyson & Louden 300
——, McElwaine & Co No 4 ..... rig bldg
526, Keatley Bros No 10 ..... rig
527 F H Rockwell & Co No 16 300
583, " No 17 ..... sand
576, Dr Heath No 2 ..... sand
540, A L Kern ..... rig
609, H G Lapham No 1 100
592 Clark, Foster & Co No 5 ..... rig

New rigs 15
Old rigs 4
Drilling 20
Total 39

Tiona.

83, Booth Bros & Co No 1 100
59, J L & J C McKinney (shut down) sand
82, " No 3 ..... drilling
82, " No 4 ..... drilling
82, J L J C McKinney No 5 ..... rig
103, " ..... drilling
103, " ..... drilling
103, " ..... drilling
103, " ..... rig
104, " ..... drilling
104, " ..... drilling
165, " No 11 ..... drilling
165, " No 12 ..... drilling
165, " No 13 ..... rig
——, " ..... rig
104, R R Armor No 6 ..... sand
104, " No 7 ..... rig
108, O'Donnell, Hill & Co No 4 200
108, M J Seymour No 2 300
161, Short, Oyster & Co No 8 400
165, McKelvey, Best & Co No 11 ..... sand
165, " No 12 ..... rig bldg
200, Bovee & Duck No 4 200
200, Wesley Chambers No 5 ..... sand
200, " No 6 ..... rig
204, Mandell Oil Co No 5 100
204, " No 6 ..... rig
202, " No 2 100
203, J H Markham No 3 ..... rig
204, W J Wood & Co No 9 ..... drilling
204, " No 10 ..... rig
205, O'Niell & Co No 3 ..... rig
205, H B Beatty & Co No 15 300
2 5, " No 16 ..... rig bldg
205, (Farnsworth) E O Emerson No 11 rig
240, (Tidewater) " No 4 .. 200
240, " " No 5 .. rig
241, F W Winger No 13 ..... drilling
241, " No 14 ..... rig
241, L Kraeer & Co No 15 ..... drilling
243, Cochran Bros No 3 ..... rig
244, Horton, Crary & Co No 2 ..... rig
244, " No 3 ..... sand
245, Sholkoff, Horton & Co No 1 ..... sand
245, " No 2 ..... rig
240, Dalrymple & Co No 1 ..... rig
284, Watson & Mitchell No 1 ..... sand
284, Hackett & Shirley No 1 ..... drilling

New rigs 19
Old rigs 1
Drilling 28
Total 48

Cooper District.

401, Anchor Oil Co drilling ..... drilling
408, McCalmont Oil Co No 21 300
408, " No 22 ..... rig
407, Shank & Stewart No 7 ..... drilling

New rigs 1
Old rigs 0
Drilling 3
Total 4

Balltown.

3195, Proper Reserve Oil Co No 8 1000
3195, (Crissman) N F Clark No 3 700
3195, " " No 4 .... rig
3195, (Stone) " No 5 1000
3195, Nickel Oil Co No 2 ..... drilling
3195, Proper Reserve Oil Co No 8 .... drilling
3198, Haight, Agnew & Co No 3 ..... rig
4821, Balltown Oil Co No 25 1200
4792, Howe Oil Co No 18 200
5215, May, Kelley & Grandin No 36 .. drilling
751, Book & Gartlan ..... rig bldg

New rigs 3
Old rigs 0
Drilling 7
Total 10

Miscellaneous.

Shamburg, Forest county, Dr Shamburg ..... drilling
" " Dr Shamburg (old) rig
Deerfield, 261, Gilson & Co ..... drilling
Ludlow, Hoffman & Co ..... drilling
McKean, 3767, White & Kemenger .. rig
Sheffield, 288, J McNair & Co ..... rig
Pleasant twp, Unknown ..... rig
Grand Valley, Conover Stewart & Co drilling
McKean, 190, Curtis Bros (for gas) .. drilling
" 213, Warren H & L Co (for gas) drilling

New rigs 3
Old rigs 1
Drilling 6
Total 10

Lower Country.

Venango.

Gordon, I Reineman (old) ..... rig
Gormley, Richardson & Hughes 800
Briery, " (old) rig
Lovell, Anchor Oil Co (old) ..... rig
Morrow, " (old) ..... rig
McCalmont, S P McCalmont ..... drilling
" " ..... rig
McBride, Smith & Co ..... rig bldg
Young, Octave Oil Co No 16 200

Buchannan, Robinson ..... rig bldg
Gates, Fisher Oil Co No 3 700
" " No 4 ..... rig
McPherson, Oil C'y Fuel Sup (for gas) drilling
Meher, " " (for gas) old rig
Wm Crary, " " (for gas) old rig
Widow Karns, " old rig
Mt Hope, Jones, ... drilling
Philadelphia tract, Shultz & Co ..... drilling
Haney, Goetell (oil in first sand) 900
McCormick, Phinney No 2 500
Diamond, J B Smithman No 3 100
Diamond, J B Smithman, No 4 ..... rig bldg
" Darr & Manning ..... rig
Cross, Hovis (old) ..... rig
Crawford, Morgan & Co (old) ..... rig
Plummer, Henderson (old) ..... rig
Crawford, Hoffman & Co 300
Baker, Gibson, Bonner & Co 200
Hetzler, Dale Bros 400
Jolly, " ..... rig
Campbell, John Johnson & Co ..... rig
Lavell, John Lee & Co ..... rig bldg
Parson, Warner ..... rig
Kaufman, Dale Bros No 7 ..... rig
Hobby, Wm Fleming 100
Webb, Taylor & Torrey ..... rig
Gailey, Kugler & Gailey No 9 500
" " No 10 ..... rig bldg
Morrison, Fisher Oil Co ..... rig
Kaufman, Judd & Co No 4 ..... rig
Handshaw, Handshaw ..... rig bldg
Pyle, Koch Bros & Co ..... rig bldg
John Starr, E E Smith & Co ..... rig bldg

Vicinity Emlenton.

A Middleton, M R Martin 1000
McClintock, Peter Curry ..... rig
Dr A W Crawford, Mackin & Crawford 900
D M Crawford, Wilkins & Messner No 3 200
Elf Osman, N Mackin ..... rig
J Sloan, Bailey & Co 600
Bailey, Cooper & Co ..... rig
Grant, J P Crawford 700
Porterfield, A A Hopkins ..... rig
Royal, Allen & Flynn 300
Dr A W Crawford, A A Hopkins 200
D M Crawford, Book Bros 300
J M Black, Crawford & Black ..... rig bldg
" Galbreath & Sherwood 500
" Weible & Boyce ..... rig
Kohlmyer, John Case ..... rig
McCullough, Graham, Cubbias & Co 200
Wm Agnew, J M Hewett 200
D Russell, Baum ..... rig
R W Porterfield, R W Porterfield ..... rig
J Smith, Sheasley & Co ..... rig

New rigs 28
Old rigs 10
Drilling 26
Total 64

Clarion.—Cogley Run.

Gibbs, Ashland Oil Co No 7 (fishing). 1000
" " No 8 ..... rig
" " No 9 ..... rig
" " No 10 ..... rig
" " 1000
Rickenbrode, " No 4 300
Strutman, Roess Bros No 3 900
" " No 4 950
" H C Zeigler No 1 1000
" " No 2 300
Fisher, Cogley Oil Co No 8 550
" " No 9 500
" " No 10 500
" " No 11 ..... rig
" " No 12 ..... rig bldg
" J B Smithman No 6 100
" " No 7 200
Berlin, Patterson & Leedom No 6 850
" " No 7 ..... rig
" " No 8 ..... rig bldg
Shorts, P H Judd & Co No 3 300
Ray, P H Judd & Co ..... rig
Deitrich, Youkers & Co No 3 600
" " No 4 300
Fern, White & Gifford No 2 600
" " No 3 300
" " No 4 ..... rig
" " No 5 ..... rig bldg
Fisher, Staley, McDonald & Deitrich No 2 900
Fisher, Staley, McDonald & Deitrich No 3 ..... rig
M P Hess, Koch & Goettel No 4 500
" " No 5 ..... rig
Young, Hale, Moriarty & Co No 3 400
" " No 4 ..... rig bldg
" Young & Stover No 3 300
" McIntyre & Woods No 4 650
" Staley & McDonald No 6 200
" McClellan 400
Fowls, McCalmont Oil Co No 3 500
" " No 4 300
" " No 5 ..... rig
" " No 6 200
" " No 7 200
" " No 8 ..... rig
Ben Hess, J B Smithman No 3 200
" " No 4 300
" " No 5 400
" " No 6 100
Barber, Barber No 2 200
John Deitrich, Koch & Co No 2 500
" " No 3 100
" Staley & McDonald No 3 ..... rig
" Holt & Morrison ..... rig bldg
M P Hess, Urquhart & Lavens No 4 600
" " No 5 200
" " No 6 ..... rig
" " No 7 ..... rig bldg
Jake Black, A Harrington (old) ..... rig
Freyburgh, Mahle Bros 200
Heeter, Heeter & Heeter 300
" Wolf & Kugler ..... sand
Fye, Phipps, Maxwell & Co No 1 ..... rig bldg
W L Hess, Koch Bros 150
Beals, Beals, Hunter & Co ..... rig
Scheffler, Nicholson & Co 500
Slicker, Wolf & Kugler ..... rig
Henry Smith, Wolf & Kugler ..... rig bldg
Wm Heeter, Three Spot Oil Co ..... 2 rigs bldg
Hess, Chauncy Oil Co ..... rig
John Henel, Koch Oil Co ..... rig
Heasley, Kelly & Koch 300
Amos Strutman, Booth, Gifford & White No 1 ..... rig bldg
Gillingham, Doyle, Gill & Co No 3 400
" " No 4 100
" " No 5 ..... rig
" " No 6 ..... rig bldg
Oscar Black, " ..... rig
Beals, Fertig Bros ..... rig bldg
Oscar Black, Hess & Sackett ..... rig
Slicker, " ..... rig
" Joe Fritz ..... rig bldg
Paul Black, Crawford, Black & Co ..... rig bldg
George Hess, W H Milligan 1000
" " ..... rig bldg
" Hess, Snively & Co ..... rig bldg
Beals, Wesley Chambers No 1 500
Mayer, Urquhart & Lavens 100
Baum, D J Thayer ..... rig bldg
Phipps, Cowles & Mimm ..... rig
W L Hess, Holt & Morrison No 1 100
" " No 2 ..... rig
" W L Hess 100
" " ..... rig
Buzzy, Sackett & Co ..... rig
Sowers, Hite & Walters 450
John Kinnemuth, Zeigler & Kerr 800
" " No 2 ..... rig
Buzza, Flynn & Co ..... rig
Deer Creek, Whitehill & Co 700
Sligo, Newell & Jones ..... rig
Fox Estate, Fox & Fink ..... rig

New rigs 47
Old rigs 1
Wells drilling 54
Total 102

Butler and Armstrong.

Various Sections.

Brownfield, W L Smith & Co ..... rig bldg
Guthrie, Ireland & Hughes 1000
Kesselman, Bott & Story (old) ..... rig
Rogers, James Redd & Co 700
" Boyd & Co ..... drilling
Nolan, Dale, Larkin & Bruce 800
Mrs Richards, Hunter & Cummings rig
Renfrew, Ireland & Hughes No 2 1200
J Pontius, Lynch & Co ..... rig
Mars Station, Crawford & Co 600
" Dalzell & Co 400
Helmbold, Leidecker 1300
Muddy Creek, Fisher Oil Co (gas) ..... 2 drilling
" " (gas) ..... 2 rigs
Fry, Fry & O'Donell 600
Bredin, Boyd & Armstrong 1200
Bickett, Cochran ..... sand
Pontius, Hunter & Cummings ..... rig bldg
Keating, Bruner & Co ..... rig
McCandless, Butler Gas Co (gas) ..... rig
Bean, Lpape & Co 400
Keister Station, Stage & Co 700
Marks, Fisher Oil Co ..... drilling

Martinsburg.

Abner Kelley, McKissock, Mildren & Adams 900
Abner Kelley, McKissock, Mildren & Adams ..... rig bldg
Cannon, Edwards & Co No 2 700
" " No 3 ..... rig bldg
" Sheidemantle & Co 300
" Wm Hirchey 300
Thos Kelly, Manifold, Conley & Co No 3 900
Thos Kelly, Manifold, Conley & Co No 4 400
" " No 5 200
Rimer, Bradstreet & Hummison 1200
H Dauhenspeck, Sheidemantle & Adams 900
Thos Smith, Harrington ..... sand
H Daubenspeck, Conners & Fishel ..... sand
Campbell, Campbell & Co ..... rig bldg
M P Black, W J McKee 100
Bailey, Lockwood & Co 600
Kepler, Sheidemantle 800
McGill, Adams, Butler & Co ..... rig
Bell, Elliott & Co ..... rig
A Kelley, Adams, Butler & Co No 3. 400
L P Daubenspeck, Shorts, Butler & Co No 2 500
L P Daubenspeck, Shorts, Butler & Co No 3 ..... rig bldg
" Connors & Fishel 800
" " rig
A Kelley, Hooks Bros No 6 ..... rig
Atwell, Beatty & Co ..... rig bldg
Widow Reep, Brawley Bros ..... rig bldg
Abner Kelley, E H Adams & Co 100
John Kelley, Mildren Bros ..... rig
John Say, Wm Arnold ..... rig bldg

St. Joe.

Clouse, Phillips Bros ..... rig bldg
Shultz, Rigney & Co 800
Oswald, Bredin, Lappe & Co 150
Widow Martin, Campbell & Murphy 300
Kirch, Hite & Co ..... rig bldg
——, Christic Bros (old) ..... rig

Thorn Creek.

Henderson, Johnson & Co No 3 (fishg) 1000
Noel, H H Stow No 2 150
Wallace, Boyd, White & McTamany 800
McCormick, Phillips No 2 ..... drilling
Wallace, Fisher Oil Co No 20 1200
" " No 21 300
" Shiedemantle ..... rig
Hartman, Markham & Bolard No 2 800
McLaughlin, Bennett & Hoffman 600
Maharg, O M Russell ..... rig

New rigs 24
Old rigs 2
Drilling 45
Total 71

Sanner's Improvement in Working Barrels.

In the oil regions the inventor has never been an idle dreamer. The necessities which have forced themselves on the men who own or handle oil wells have given their minds an inventive turn, and they have originated nearly all the improvements which have cheapened the cost of producing oil. James Sanner, the well-known contractor and producer, has patented "an improvement on working barrels." It consists of a wrought-iron pipe having an inside diameter of three-quarters of an inch or one inch, of the same length as a working barrel. It has its upper end perforated about a foot and a half from the top. The covering of this pipe and the bottom of the working barrel are both screwed into a hollow cast-iron U-shaped base so that the oil passes into the top of the perforated iron pipe, then through the U-shaped tube into the working barrel. The use of Sanner's simple improvement, which is sold for five dollars, prevents the gas from raising the valves in the working barrel and keeps out sand, sediment and obstructions of every kind which clog the valves and necessitate the pulling of rods. In their advertisement, published elsewhere, a cut is given of the improvement, and the claims for the invention are clearly set forth. Mr. John Kelly is the agent, and the improvements are manufactured at the shop of M. Shearer, No. 1 Corydon street, Bradford, Pa.

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	August, 1885. Wells.	Prod'n.	Dry.	July, 1885. Wells.	Prod'n.	Dry.
Scio	3	25	0	5	31	0
Alma	6	27	0	9	44	0
Wirt	4	18	1	6	36	0
Bolivar	8	47	0	5	31	0
Clarksville	10	76	1	4	20	1
Genesee	2	14	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Total	33	207	2	29	162	1

BRADFORD FIELD.

Division of Field.	August, 1885. Wells.	Prod'n.	Dry.	July, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	11	90	0	5	53	0
Kendall Creek	3	21	0	1	5	0
Foster Brook	4	31	0	4	24	0
Four Mile	2	10	0	2	10	0
Indian & Meeks Creeks.	5	35	0	5	24	0
Cole Creek	10	170	0	18	338	1
Kinzua	0	0	0	2	8	0
Total	35	357	0	37	462	1

WARREN AND FOREST.

District.	August, 1885. Wells.	Prod'n.	Dry.	July, 1885. Wells.	Prod'n.	Dry.
Glade	21	189	1	13	94	4
Clarendon	25	145	1	26	154	0
Tiona	36	217	0	30	184	0
Cooper	3	10	2	4	15	2
Ballitown	7	141	1	2	81	0
Miscellaneous	5	6	4	6	17	3
Total	97	708	9	81	544	9

LOWER COUNTRY.

District.	August, 1885. Wells.	Prod'n.	Dry.	July, 1885. Wells.	Prod'n.	Dry.
Venango	31	145	8	24	179	4
Clarion	52	1611	4	37	956	3
Butler and Armstrong	38	285	17	34	386	9
Total	121	2041	29	95	1521	16

GRAND SUMMARY.

District.	August, 1885. Wells.	Prod'n.	Dry.	July, 1885. Wells.	Prod'n.	Dry.
Allegany	33	207	2	29	162	1
Bradford	35	357	0	37	462	1
Warren and Forest	97	708	9	81	544	9
Lower Field	121	2041	29	95	1521	16
August Total	286	3313	40	242	2689	27
July Total	242	2689	27			
Increase	44	624	13			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	August 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	4	6	7	17	3	7	2	12
Alma	9	12	17	38	9	10	11	30
Wirt	4	4	10	18	7	3	6	16
Bolivar	2	5	9	16	1	4	12	17
Clarksville	16	3	13	32	9	2	9	20
Genesee	0	15	1	16	0	16	1	17
Miscellaneous	0	0	0	0	0	0	0	0
Total	35	45	57	137	29	42	41	112

BRADFORD FIELD.

Division of Field.	August 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches.	11	19	17	47	13	18	12	43
Kendall Creek	2	6	3	11	1	7	4	12
Foster Brook	9	1	7	17	3	2	6	11
Four Mile	0	3	2	5	0	4	2	6
Indian Creek	3	4	11	18	4	5	3	12
Cole Creek	4	5	14	23	4	5	13	22
Kinzua	2	0	5	7	1	1	2	4
Miscellaneous	0	0	0	0	0	0	0	0
Total	31	38	59	128	26	42	42	110

WARREN AND FOREST.

Division of Field.	August 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	21	2	9	32	12	2	10	24
Clarendon	15	4	20	39	14	4	14	32
Tiona	19	1	28	48	22	1	25	48
Cooper	1	0	3	4	3	1	3	7
Ballitown	3	0	7	10	0	4	6	10
Miscellaneous	3	1	6	10	1	1	4	6
Total	62	8	73	143	52	13	62	127

LOWER COUNTRY.

Division of Field.	August 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Venango	28	10	26	64	28	2	32	62
Clarion	47	1	54	102	34	1	40	75
Butler & Armstrong.	24	2	45	71	17	6	67	90
Total	99	13	125	237	79	9	139	227

GRAND SUMMARY.

Field.	August 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	July 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	35	45	57	137	29	42	41	112
Bradford	31	38	59	128	26	42	42	110
Warren and Forest	62	8	73	143	52	13	62	127
Low r Country	99	13	125	237	79	9	139	227
Total Aug. 31	227	104	314	645	186	106	284	576
Total July 31	186	106	284	576				
Difference	41	2	30	69				

SUMMARY of the Statements of the National Transit Company for August and July 1885:

	August. Barrels.	July. Barrels.
Receipts from all sources	1,499,836.29	1,733,473.59
Deliveries	1,844,807.94	1,780,209.57
Gross stocks end of month	36,870,483.10	37,243 868 39
Sediment and surplus	3,799,382.76	3,811,729.31
Total liabilities end of month	33,071,100.34	33,432,139.08
Outstanding acceptances	27,571,587.22	27,562,638.85
Credit balances	5,499,513 12	5,869,500.23

The above "Receipts from all sources" for July were made up as follows:

Runs from wells	1,564,538.73
Received in iron tanks	168,934.86

The receipts from all sources for August were made up entirely of runs from wells.

SUMMARY of the Statement of the Tidewater Pipe Company, Limited, for August, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of August		1,351,851.23
Quantity of crude petroleum at close of Aug.	1,489,596 65	
Less sediment and surplus	137,550.02	
		1,352,046.03
Receipts during August		194,007.20
Deliveries during August—to refiners	192,407.09	
" " " to other parties		
		192,407.09
Outstanding certificates, accepted orders, etc.		830,000 00
Credit balances		522,046 03
Total liabilities, August 31, 1885		1,352,046.03

JULY SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of July		1,504,991.12
Quantity of crude petroleum at close of July	1,488,888.74	
Less sediment and surplus	137,034.51	
		1,351,854.23
Receipts during July		199,607.48
Deliveries during July—to refiners	174,917.72	
" " " to other parties	168,934.86	
		343,852.58
Outstanding certificates, accepted orders, etc.		787,000.00
Credit balances		564,854.23
Total liabilities July 31, 1885		1,351,854.23

THE PERUVIAN PETROLEUM FIELD.

THE existence of petroleum in the land of the Incas has been known for many years. At numerous places in the Andes Mountains, the outcroppings of oil are plainly to be seen. Shallow pits, dug for various purposes, have speedily filled up with the black, greasy product, for which the natives could find but limited use. At Mal Paso, on the Peruvian coast, the mountain range forms part of the shore line, of the Pacific Ocean, and from the huge cliff, whose rocky front has been broken off by the ceaseless dash of waters, oil has been seeping for centuries. But no fire worshippers were in this part of the world to ignite the inflammable oil, and watch the weird effect of an oceanof flame. All about this region are to be found monumental remains of the ancient Peruvians, whose civilization is still the marvel of the antiquarian, but nowhere have any evidences been discovered to show that the deposits of crude oil were mined or used by this intelligent and mysterious race.

The petroleum field of Peru, as at present defined, consists of a small area of territory, in the department of Piqua, in the northwestern part of the country, containing three producing oil wells and a refinery. About nineteen years ago Mr. Fred Prentice and a number of oil region capitalists invested considerable money in fitting out an expedition for developing the petroleum deposits of Peru. The result of this exploration is shown to-day at the village of Zoretus, on the Pacific coast, twenty miles south of Tumbez, where fifteen or twenty wells have been drilled and a refinery of three stills erected. An Italian gentleman, by the name of Piaggio, who resides at Callao, is now the owner of the wells and the refinery.

During the spring months of the present year Mr. A. A. Perkins, of Bradford, an expert in everything that pertains to the sinking of artesian wells, was engaged by Mr. Piaggio to come to Peru and drill a couple of the wells to a greater depth, with a view to obtaining an increased output of crude. Mr. Perkins sailed from New York to Aspinwall late in April. Crossing the isthmus on the Panama Railroad, a steam vessel took him to the mouth of the Tumbez river, a small harbor on the northern coast of Peru. From the steamer, a row boat is required to conduct the traveler nine miles up the Tumbez river, to the village of the same name, a small place of about 800 inhabitants. A bridle path over the mountains leads to Corrales. Here the path winds along the bottom of the foot hills to La Cruz, where it takes to the beach. A four mile ride along the shore, and Zorctus, the place of his destination, is reached.

Mr. Perkins found that of the fifteen or twenty wells that had been drilled, since the advent of Mr. Prentice, none had been sunk to a depth of 500 feet and nearly all of them were pretty thoroughly plugged with broken down tools and old iron. One producing well, doing about 10 barrels a day, supplied the refinery, which was fired up about once in three weeks, or when sufficient oil had accumulated to make the operation worth while. This well was 300 feet deep and produced a black oil of 36 degrees gravity. Mr. Perkins' first employment was piecing together a set of tools, from the remains of what had been brought there in previous years. He found drilling operations in charge of an intelligent Canadian, who had been in the country for fifteen years, and who was thoroughly acquainted with the language, manners and customs of the natives. The old style of drilling with the centre bit and reamer, was strictly adhered to, and Mr. Perkins' intentions of drilling with a club bit were derided and believed to be an impossibility by the Canadian and the workmen he had trained to assist about the wells. A well 430 feet deep was immediately drilled to a depth of 480 feet, and a green oil of 43 degrees gravity discovered. The well is now pumping 20 barrels a day. The black oil is generally found at 130 feet, where it begins to seep out from the rock. About seventy feet of casing is used to keep the well from caving and not from any desire of shutting out the salt water. The rock seems thoroughly saturated with oil all the way down, as far as the drill has yet penetrated.

Mr. Perkins' next undertaking was at another old well, 280 feet deep, which at one time had produced 100 barrels of black oil a day, but which was now entirely exhausted. His greatest difficulty was in piecing together a derrick. There is no timber of any value in the country, and all other rigs had been erected without any main sill. The Sampson post had been set directly in the ground. No sand reel was used, but instead the tools were pulled out and a hollow tube screwed on which was used as a sand pump to remove the sediment.

Mr. Perkins' new rig was forty-eight feet high and he used a sub-sill in which the Sampson post was inserted. A sand reel was a feature of the new rig, entirely unknown in this country before. He removed the casing from the old hole and reamed it down to the original depth. He used 2 1-4 inch tools for the small hole and club bits. Tools of this size had previously been used solely for drilling the big hole. The last well drilled at Zorctus required seven months. With the improved facilities Mr. Perkins soon put the well down to a depth of 343 feet, and states that with a full oil region outfit and oil region drillers there is no reason to prevent wells from being sunk with as great rapidity in Peru as in Pennsylvania. The well drilled was expected to make a 20-barrel pumper and completed his engagement in this primitive region.

The oil refined by Mr. Piaggio, at Zoretus, is put up in cases, containing two cans of five gallons each. It readily commands $4.50 per case at Callao, where a good quality of American refined is sold at 50 cents a gallon. Callao, the principal commercial city of Peru, is 800 miles south of Zoretus. The refinery now has a supply of about 40 barrels of crude a day from the three producing wells. There are three iron tanks at Zoretus, each of 3,000 barrels capacity. The refinery at the present time is only using one of its hundred barrel stills. Petroleum refuse is used for fuel, and small quantites of wood, which is brought from the mountains, packed on the backs of the small, but strong and willing burros. Rain seldom falls at Zoretus, and the water supply is obtained from the ocean. Marine boilers are used about the works and in drilling the wells. The condensed steam from the exhaust pipes is used for drinking. The refinery is in charge of a native Peruvian, who is called "the administrator." A tin shop, in which the cans are made, also employs native workmen.

The climate of Zoretus never rises above 90 degrees F. and rarely falls below 60 degrees. The trade winds strike the place and their steady breeze is at once refreshing and exhiliarating. No more romantic site for an oil well could be imagined or desired. On one side, within one hundred yards, the great Pacific dashes its breakers with never ceasing roar against the shore. On the other the snow-capped peaks of the Andes lift their rugged forms.

Mr. Perkins is of the opinion that an abundant supply of petroleum can be obtained at a depth of 1,000 feet.

A market could be obtained for it in supplying locomotives and steam vessels with the liquid fuel Coal is scarce and dear, costing $16 per ton. The country about Toretus is barren, but in the vicinity of Tumbez numerous haciendas bear witness to the fertility of the soil. All the land has to be irrigated. Cocoanuts, pineapples, bananas, etc., are raised in abundance.

ANALYSIS OF PERUVIAN PETROLEUM.

A sample of Peruvian petroleum has been submitted to Dr. F. Salathe, the chemist at the head of the American Aniline & Chemical Co. of Titusville, who makes the following report:

The crude petroleum of Peru differs very materially from the crude petroleum of Pennsylvania. It is to be considered a product which is decomposed by heat, probably subterranean heat.

While American petroleum consists entirely of hydrocarbons belonging to the fat series, the Peruvian product contains also hydrocarbons of the aromatic series, possessing an odor resembling that of coal-tar products.

The specific gravity of this crude Peruvian oil is 0.8480 at 15 deg. C., or 36 deg. Beaume, as tested with the Standard Petroleum Association hydrometer.

Its constitution is shown by the following analysis:

Carbon, 84.9 per cent.

Hydrogen, 13.7 per cent.

Oxygen, 1.4 per cent.

The heat produced by its complete combustion is equivalent to 10.672 calories.

The co-efficient of expansion equals 0.00072.

A fractional distillation of this Peruvian crude oil gives the following result:

Degrees Celsius.	Per Cent.	No.	
10–30	2.8	1	Cymogene Rhigoline
30–80	9.0	2	Gasoline.
80–150	11.1	3	Benzine.
150–230	18.5	4	Kerosene (light).
230–280	10.0	5	Kerosene (heavy).
At high temperatures	12.8	6	Lubricating Oil (light).
	4.8	7	Lubricating Oil (heavy).
	31.0	8	Asphaltc.

All the light oils distilling between 10 deg. and 150 degs. possess a very pleasant odor resembling that of chloroform or ether in their crude state, while the light oils or naphtha from Pennsylvania oil have a strong, unpleasant odor, which is difficult to get rid of, and needs a special process to be deodorized. Concerning the oils distilling between 150 deg. and 280 deg. of Peruvian oil, I have to state that a very small quantity of sulphuric acid is necessary for treating 2–5 a 3 lbs. of acid to one barrel of oil of 50 gallons. The spent acid being slightly colored a reddish brown indicates that the Peruvian oil contains but little tarry matter.

The most valuable oils, which I separated and marked No. 6 and No. 7, are the best lubricating oils and are entirely free of paraffine which never fails in the lubricating oils made of Pennsylvania oil, and renders the manufacture of good lubricators very difficult.

Both samples No. 6 and No. 7 were submitted to a temperature very low, 30 degs. below zero. There was no trace of solid matter to be detected, and the oils remained perfectly liquid. These facts show clearly that the products of Peruvian oil will have a great future, especially the light oils or naphtha undoubtedly could be used as an anæsthetic, while the lubricating oils are equal to the best Russian oils now in the market. The distillation is to be interrupted as soon as yellowish vapors make their appearance. The residue remaining in the still resembles the natural asphaltum and can be used for all purposes where natural asphaltum is required. In case there should not be a sale for asphaltum, the distillation can be conducted down to coke, which is an excellent fuel, being entirely free of ashes, and may be utilized to great advantage for heating the stills.

DR. F. SALATHE,
Technical and Theoretical Chemist.

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	AUGUST, 1885.	JULY, 1885.
National Transit Co	1,499,836.29	1,564 538.73
Tidewater	194,007 20	199,607 48
Octave Oil Co	2,977.36	3,086 00
Charley Run	108.00	--------
Shaffer Run	600 00	--------
Franklin (limited)	7,500.92	7,198.90
Cranberry Pipe Line	--------	1,645.61
Total	1,705,029.77	1,776,076.72
Daily average	55,900.96	57,292,80

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	AUGUST, 1885.	JULY, 1885.
National Transit Co	1,844,807.94	1,780,209.57
Tidewater	192,407.09	174,917 72
Octave Oil Co	2,743 49	2 953,00
Charley Run	--------	--------
Shaffer Run	2,103.00	--------
Franklin (limited)	7,037.43	2,725 88
Cranberry Pipe Line	--------	--------
Total	2,049,098.95	1,960,806.17
Daily average shipments	66,099.97	63 251,81

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, August	11,099.01
Daily excess of shipments over runs, July	5,959.01
Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,839.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	AUGUST 31, 1885.	JULY 31, 1885
National Transit Co	33,071,100.34	33,432,139.08
Tidewater	1,352,046.03	1,351,854.23
Octave Oil Co	3,140.15	4,069.00
Charley Run	3,320.00	3,717 00
Shaffer Run	27,657 00	30,636.32
Franklin (limited)	39,536.33	39.072 84
Cranberry Pipe Line	--------	25,841 37
Total	34,496,799 85	31,887,329.84
Stocks decreased August		390,529 99
Stocks decreased July		215,947.71
Stocks decreased June		356,849 49
Stocks decreased May		565.252 48
Stocks decreased April		42,525 72
Stocks decreased March		248,900 89
Stocks decreased February, 1885		376,306.01
Stocks decreased January, 1885		179,780 27
Stocks decreased December, 1884		984,300.33
Stocks decreased November, 1884		266,552 87
Stocks decreased October, 1884		616.976.88
Stocks decreased September, 1884		345,281 52
Stocks increased August, 1884		97,092.86
Stocks increased July, 1884		323,063.12
Stocks increased June, 1884		194,320.03
Stocks increased May, 1884		322,984 73
Stocks increased April, 1884		1,945,919 83
Stocks increased March, 1884		161.711.39
Stocks increased February, 1884		206,984 61
Stocks increased January, 1884		119,365.56

	RECEIPTS.	DELIVERIES.
Daily average August	55,004	66,100
Daily average July	57,293	63,252
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,8 1
Daily average February	54,976	67,667
Daily average January, 1885	53,299	58,183
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76.391
Daily average August	66.996	64,402
Daily average July	66,702	56,170
Daily average June	67,350	60,907
Daily average May	66.688	56,448
Daily average April	65 794	54,773
Daily average March	64,590	60,445
Daily average February	64,573	59,420
Daily average January, 1884	58,173	54,404

Crude Market for August.

The market continued within a few points of the dollar mark, throughout the month, never getting above $1.05 nor falling below 97 3-4 cents. The opening price of the month was from 98 3-8 to 98 3-4 in the several Exchanges, and the closing $1.01 3-8 to $1.01 1-2.

Nothing has occurred to check the strong statistical position of the crude market. The shipments continue in excess of the runs, and a steady diminution of stocks results.

The bears have raided the market several times upon wild reports from Washington and Butler counties, but recovery each time has been rapid. The trade is in a rather timid condition, and remembrance of serious breaks in the past, consequent upon the discovery of gusher wells are steadily kept in view. At the present writing, the future of the market stands waiting upon the success or failure of the Leidecker well in Butler county. Should it prove a gusher no great advance can be looked for until the character of the territory about it is thoroughly ascertained. The larger conditions of supply and demand seem lost sight of when the future of the petroleum market is considered, and prospects of a 1,000-barrel well are more earnestly discussed by the trade than the possibilities of future good that must arise from the continued decrease in the stocks above ground.

The highest point for the month was reached on the 22d, when $1.05 was paid for oil at Oil City and Pittsburgh. The lowest was 97 3-4c, which was touched at Bradford on the 11th day of the month. The highest price reached in Bradford was $1.04 5-8, which figure had not been reached during the previous eighteen months.

The range of prices for August was 7 1-4 cents as compared with 13 1-8 cents in July, 18 cents in June, 4 3-4 cents in May, 4 3-8 cents in April and 8 cents in March. The average price for the month on the floor of the Bradford Exchange was $1.00 3-8 against 96 3-8 in July, 82 1-4 in June, 79 5-8 in May and 78 7-8 in April. The average price for August one year ago was 81 1-5 cents.

THE CLEARANCES.

	August. Barrels.	July. Barrels.
Bradford Oil Exchange	71,068,000	116,002, 00
Oil City	120,918,000	184,416,000
New York Consolidated Exchange	239,877,000	391,655,000
Pittsburgh Petroleum Exchange	55,936, 00	114,484,000
Philadelphi Oil Exchange	18, 65,000	31,659,000
Total	506,064,000	838,216,000

The Refined Market.

The demand for refined oil during August was smaller than was anticipated, and though stocks in Europe remain very low, there seems no anxiety on the part of the European buyers to immediately replenish. Refiners have not receded from their position and stand firm, evidently relying upon a heavy fall trade.

On the 14th of August prices were advanced from 8 1-4 to 8 3-8, for New York delivery, which formed the basis of value for the remainder of the month, although one-eighth cent higher, quotation, was marked on the board, for a day or two, during the last week in the month.

Refined in cases has had a moderate demand at unchanged prices, 9 1-2a10 5-8 cents as to brand. The shipments of this class of goods to the East, for the first eight months of the present year are 632,033 cases in excess of last year, but August, '85, shows a falling off of 24,741 cases when compared with August, 84.

Domestic oils are unchanged at 8 1-2a9c for 110 test standard white, 9 1-4a9 3-4c for 120 test, 9 1-2a9 3-4c for 30 test, 9 1-2c for State test, 10 3-4c for 150 test and 12a 13c for 300 test standard white. Naphtha is firmly held at 7c for prime city. Gasolene and residuum are scarce and strong at unchanged prices.

Mr. George H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East up to the first of September, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai, previously reported	1,191,343	477,908
" August	156,433	
Hong Kong, previously reported	576,829	558,125
" " August	52,940	
JAPAN—Yokohoma, previously reported	633,769	511,899
" " August	40,302	
Hiogo	624,499	353,270
Nagasaki	74,942	71,516
INDIA—Calcutta, previously reported	784,150	1,501,767
" August	62,000	
Bombay, previously reported	909,354	591,459
" August	16,500	
Kurrachee	96,263	51,505
Point de Galle	18,428	66,720
Madras	47,382	42,260
Rangoon and Colombo	133,391	208,875
JAVA—Batavia	357,494	293,572
Anjier	585,940	1,078,380
SINGAPORE	163,933	144,753
Penang and Singapore	-------	28,900
Penang	169,975	139,380
Other Eastern ports	266,832	210,377
Total September 1	6,962,699	6,330,666
Total August 1	6,244,166	5,587,392
August clearances	718,533	743,274
Decrease as compared with August last year	24,741	

REFINED QUOTATIONS FOR AUGUST.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwerp.
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	8	8	8	6⅞	7.65	19⅜
2						
3	8¼	8⅛	8⅛	6⅞	7.55	19⅜
4	8¼	8⅛	8⅛	6⅞	7.60	19⅜
5	8¼	8⅛	8⅛	6⅞	7.60	19¼
6	8¼	8⅛	8⅛	6⅞	7.60	19¼
7	8¼	8⅛	8⅛	6⅞	7.55	19¼
8	8¼	8⅛	8⅛	6⅞	7.55	19¼
9						
10	8¼	8⅛	8⅛	6⅞	7.55	19¼
11	8¼	8⅛	8⅛	6⅞	7.55	19¼
12	8¼	8⅛	8⅛	6⅞	7.55	19¼
13	8¼	8⅛	8⅛	7	7.65	19⅜
14	8⅜	8¼	8¼	7	7.65	19⅜
15	8⅜	8¼	8¼	6⅞	7.65	19⅜
16						
17	8⅜	8¼	8¼	6⅞	7.65	19¼
18	8⅜	8¼	8¼	6⅞	7.65	19⅜
19	8⅜	8¼	8¼	7	7.65	19⅜
20	8⅜	8¼	8¼	7	7.65	19½
21	8⅜	8¼	8¼	7	7.65	19½
22	8½	8⅜	8⅜	7¼	7.70	19⅝
23						
24	8½	8⅜	8⅜	7¼	7.70	19⅝
25	8⅜	8¼	8¼	7¼	7.70	19¾
26	8⅜	8¼	8¼	7⅜	7.65	19⅝
27	8⅜	8¼	8¼	7¼	7.65	19⅝
28	8⅜	8¼	8¼	7⅛	7.65	19½
29	8⅜	8¼	8¼	7⅛	7.65	19½
30						
31	8⅜	8¼	8¼	7⅛	7.65	19½

Natural Gas In New York State.

The gas well at Maysville, N. Y., of Mr. Andrew Herpsberger, the President of the Chautauqua Lake Ice Co., is 1,819 feet deep. A pressure of 130 pounds to the square inch is reported. It was completed on the 2d of September.

A well at Gardenville, twelve miles from Buffalo, which was bored for salt, sends forth a gas flame 15 feet high. It is also stated that in the city of Buffalo gas may be found in moderate quantities, but not sufficient for manufacturing purposes. The city may yet enjoy the luxuries of natural gas, without need of depending upon the absurd schemes lately promulgated of piping it from the gassers of McKean and Warren counties.

August Production Report.

Reports of the stocks on hand at 6,102 Bradford wells, showed an average increase of one and three tenths barrels to the well during August.

Time.	No. Wells.	Gross Stocks.	Average per well.
September 1, 1885	6,102	308,612	50.6
August 1, 1885	6,085	299,965	49.3
Difference	17	8,647	1.3

The number of wells in the Bradford field connected with the pipe lines on the 1st of September is estimated at 13,515 Estimating the entire Bradford region on the basis of one and three-tenths barrels increase, the total increase in stocks at wells during August, was 17,569 barrels, a daily average of 567 barrels. Adding the increase in stocks to the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for August is as follows:

	Barrels.
Average Daily Pipe Line Runs	29,291
Average Daily Increase of Stocks at Wells	567
Bradford's August Production, estimated	29,858
" July " "	30,309
Average Daily decrease	451

These figures show a decrease of 451 barrels a day in the production of the Bradford field during August.

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
September 1, 1885	1,130	40,165	35.5
August 1, 1885	1,127	40,353	35.8
Difference	3	188	.3

The wells from which reports were received had an average decrease of three-tenths of a barrel to the well during August. With 3,890 wells in the field on the first of September, these figures give a total decrease for the field of 1,167 barrels, or an average decrease of 37 barrels per diem. Subtracting this amount from the average daily pipe line runs, 7,102, the remainder, 7,065, will represent Allegany's daily production during August. The July average was 7,139 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the first of each month, with their averages, are contained in the following statement:

Field.	No. Wells August 1.	No. Wells Sept. 1.	Average per well August 1.	Average per well Sept. 1.
Clarendon and Tiona	175	189	37	36
Cherry Grove	22	22	50	54
Cooper District	144	145	63	64
Thorn Creek	60	63	120	125
Lower Country	82	83	55	52
Miscellaneous	151	1 0	97	104

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for August and July is as follows:

Field.	August. Barrels.	July. Barrels.
Bradford	29 858	30,309
Allegany	7,065	7,139
Outside Runs	18,608	19,273
Total	55,531	56,721

The above figures show a decrease in the production of 1,190 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points along the Allegheny river.

The following table shows the comparative production for 1883, 1884 and 1885:

	Bradford.		Allegany.		Outside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481	11,607	13,154	18 561	13,573	62,546	65,208
March	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
August	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
November	31,789	35,926	8,642	12,678	23,557	18,433	63,988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16,140	55,529	59,240
February	27,051	32,378	7,196	11,607	19,800	18,561	51,047	62,596
March	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23,067	19,162	57,649	63,452
May	27,231	33,922	7,049	11,547	21,225	19,549	55.505	65,018
June	29,272	33,753	7,463	11,108	21,559	19,977	58,294	64,838
July	30,309	34,031	7,139	11,218	19,273	20,870	56,721	66,119
August	29,858	33,353	7,065	10,384	18,608	22,830	55,531	66,567

The production of the Bradford field for August is 3,495 barrels a day behind the August output of 1884. Allegany falls short of the August average of last year by 3,319 barrels, and the entire region shows a decrease of 11,036 barrels per diem from the figures furnished by the production report for August, one year ago, and 10,789 barrels a day less than the estimated output of August, 1883.

In the above report no account is taken of the Macksburg field, which had an average production of about 2,400 barrels a day for July and August.

Pittsburgh Gas Memoranda.

The Economy Gas Co., with a capital of $250,000, was organized in Pittsburgh August 18. The corporators are Hon. Henry Hice, of Beaver; H. C. Fry and J. H. Lippincott, of the Rochester Tumbler Co.; H. W. Hartman, of the Hartman Steel Co., of Beaver Falls; D. A. Stewart and S. E. Moore, of Carnegie Brothers, of Pittsburgh, and A. F. A. Brown, of Jamestown, N. Y. The Economites are also interested. This company owns leases to 7,000 acres of gas territory in Beaver county, and has just struck a large well on the W. M. Calvert farm, near New Sheffield. The product will be piped through a high-pressure line to Rochester and Beaver, and the route for the same is now being surveyed. This is the only well this company have up to this writing, but the immense volume of gas produced makes up for numerical deficiencies. It is the largest gasser in that section with the possible exception of the Bridgewater Gas Co.'s well on the White farm. The Calvert well was drilled by Captain Grace. The Economy Co. have made a location on the Born farm northeast of Sheffield, while the Bridgewater Co., its enterprising rival, has made a location for a well on the Geo. N. Hall farm within 100 feet of the great gasser. Most of the gas territory lies on the south side of the Ohio river, opposite Freedom.

Pew & Emerson's new gas well on the John Howard farm, one mile northeast of Murraysville, struck an unusually strong flow of gas on the 15th of August at a depth of 1,425 feet. This energetic firm is the organizer and chief stockholder of the People's Natural Gas Co., which is now busy laying an eight-inch main to the Smoky City. The company will drill a second well near the Murraysville school house. Two miles of pipe are already laid, and the remaining sixteen miles it is expected will be done within two months. From Edgewood Station the pipe will be laid in the Monongahela river. The river route is now being surveyed. The pipe weighs 24 pounds to the foot.

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO AUGUST 31, 1885.

1882.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge Bbls.
May	6,765	.....	.....	6,765	218
June	91,102	.....	.....	91,102	3,035
July	268,294	.....	.....	268,294	8,655
August	753,752	.....	.....	753,752	24,317
September	690,072	.....	.....	690,072	23,002
October	290,246	3,712	.....	293,958	9,483
November	146 587	8,810	.....	155,397	5,180
December	98,582	17 342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217,408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8.376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,516	114 233	244,490	8,150
December	32,885	89,164	116,747	2 8,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884					
January	23,787	90,145	87,061	200.993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87 193	261,784	8,445
April	31,191	226,860	71,989	230,040	7,668
May	30,010	107 514	70,069	207,593	6,696
June	25,348	89.554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
September	19,590	64,648	63,453	147,691	4.923
October	13,824	56,151	55,211	125.186	4,038
November	12 689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25.469	62,262	2,224
March	11,558	25,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71.216	2,297
June	13,181	29,998	31.340	74 519	2,484
July	14,478	28,095	31,990	74,563	2,405
August	11,247	28,603	28,828	68,678	2,216
Total Aug. 31, '85	3,456,248	2,375,129	1,810,013	7,641,390	6,268

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to August 31, 1885. Cherry Grove has produced 3,456,248 barrels, Cooper 2,375,129, and Balltown 1,810,013 barrels. The daily average runs from the three fields during August were 2,216 barrels, a decrease of 189 barrels from the July figures. The daily average runs from the Cooper and Henry Mills section for August were 923 barrels, for July 906, and for June 1,000 barrels.

The Balltown field has a daily average of 930 for August against 1,032 in July. Cherry Grove averaged 363 barrels during August, 467 in July, 439 in June and 343 in May.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to August 31, 1885, inclusive, has been 7,641,390 barrels, a total daily average of 6,268 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND WARDWELL.

The runs from Baldridge and Wardwell since April 1, 1884, have been as follows:

Month.	Baldridge Runs.	Daily Average.	Wardwell Runs.	Daily Average
April	25,325	844	14,263	475
May	32,885	1,061	31,451	1,015
June	29,070	969	61.260	2,042
July	27,545	889	132,595	4,277
August	26,134	843	200,985	6,483
September	79,324	2,644	121,683	4,056
October	187,068	6,034	68,256	2,201
November	284,806	9,493	40,376	1,346
December	270,644	8,730	30,357	979
January, 1885	192,180	6,199	30,286	977
February	205,774	7,349	18,570	663
March	224,398	7,239	18,770	605
April	280,005	9,333	15,823	527
May	232,138	7,488	22,384	722
June	165,774	5,905	22,914	764
July	119,531	3,856	20,058	647
August	70,318	2,268	.....	.....

The runs from the Wardwell district are no longer kept separate from the Glade field. Under Baldridge is included the Thorn Creek district, but the above figures from this section are incomplete for July and August on account of no reports having been made by the Pittsburgh Pipe Line, which is now engaged in running oil from Thorn Creek and St. Joe.

A COMPANY is projected to manufacture and sell water fuel gas on the Dawson (English) principle on a large scale. It is said it can be done profitably at five cents per thousand feet, while the gas can be carbonized for illuminating purposes and sold at eight cents per thousand feet. Full details as to capitalization, etc., have not been settled, but the enterprise is in the hands of gentlemen who give assurance that it will be established on a solid business footing at Pittsburgh.

THE Philadelphia or Westinghouse Gas Company purchased the Carpenter Natural Gas Co. for half a million dollars. By this purchase the Philadelphia company secures the mineral right to 3.600 acres of gas territory in the centre of the Murraysville district. The Carpenter line of pipes supplied eleven iron and glass manufactories in Pittsburgh and McKeesport, Pa. It was the most active competitor of the Philadelphia company, which is now virtually in control of the natural gas industries of the country. Its lines make a complete circuit of the city of Pittsburgh.

THE Manufacturer's Natural Gas Company, composed of Fred and Henry Fisher, the well known oil dealers, Charles Meyran and other Pittsburgh capitalists, has commenced laying pipe along the South Side to Birmingham and Brownstown, suburban districts of the Smoky City. It will also lay mains to connect with Soho and Allegheny. This company has three gas wells near Cannonsburg and two more drilling. It is backed by eight millions of capital and controls over 10,000 acres of territory in Washington county. John W. Cleigh, the chief engineer who located the line, says the distance from one of the wells to Pittsburgh is a little over thirteen miles. The cost of pipe-laying as compared with other companies has been light, and the new company intends to make a heavy cut in the rates for gas now charged the iron manufacturers.

The Chambers Natural Gas Company has commenced work in putting down an 8-inch high-pressure gas line, which is to extend from Mansfield borough to the five producing wells at Hickory, in Washington county, a distance of fourteen miles. The usual weight of an eight inch pipe is twenty-six pounds, but this is to be an extraordinarily heavy line which will weigh twenty-eight pounds to the foot. As there are 5,280 feet in a mile the total will be 73,920 feet, for which it will require 2,069,760 pounds, or a little more than 1,034 tons of pipes, for which the contract has been awarded to the Pennsylvania Tube Works in this city. The skelp iron for this order is rolled on the plate mill rolls at the Millvale works of Graff, Bennett & Co. This company has at present five producing wells, with two others nearly down to the gas vein. It intends to keep drilling until it has ten good flowing wells to supply its customers. Its last well was struck in the McGuigan sand, at a depth of something more than 2,100 feet. The well is a big one, and as the McGuigan well is a stayer, the stockholders are very much pleased. The company has leases on 25,000 acres of gas lands, which they believe is underlaid with the McGuigan sand, and the gas, it is believed, will hold out for a long time, if not practically inexhaustible.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., OCTOBER, 1885. NO. 9.

NATURAL GAS AND PETROLEUM.

The Recently Discovered Sources in Northwestern Ohio.

BY EDWARD ORTON, STATE GEOLOGIST OF OHIO.

THE DRILL has been kept busy in Ohio during the last year and there is a good deal to show for its work. Out of a nearly-exhausted oil-field with shallow wells and small and diminishing production (Macksburg), a first-class field has been developed, depending on deep wells, and the daily product of which has probably averaged 3,000 barrels *per diem* for the last few months.

But of even greater interest than this is the discovery, by means of the drill, of a new horizon of high-pressure gas in rocks that nowhere reach the surface in Ohio. The same horizon has also yielded petroleum in notable amount at two localities. It is this new field of which I wish to give a brief account to the Section, with special reference to its geological features.

It is located in Northwestern Ohio, three towns, viz.: Findlay, in Hancock county; Bowling Green, in Wood county, and Lima, in Allen county, thus far constituting the productive territory.

Of these three points Findlay is much the most important, both as regards the number and force of the wells. The first well was drilled here in the autumn of 1884, the main gas-rock being reached in November. Six wells have been drilled up to the present time. These are divisible into two groups, of quite unequal production, the first, second and fourth being much below the remainder in daily outflow. A test of one of the largest wells by the anemometer showed the production to exceed 1,250,000 cubic feet *per diem*, while one of the smaller group, measured by the same means, showed 82,000 feet as the daily product. The other two wells of this group are, however, larger than the one that was measured. Several other wells are being drilled here.

Bowling Green comes next to Findlay in the new field. It has three wells, all productive, and one of them a large producer.

But a single well has been completed in Lima up to the present time, and this one yields but little gas, but a considerable quantity of oil. Probably a couple of hundred barrels in all was pumped out of it in five or six days. Other wells are being drilled in and adjacent to Lima.

Since the successful drilling at Findlay, wells have been drilled at various other points in the same general district, and new wells are now projected at a number of points. Fostoria has a deep well that yields little or no gas. Fremont has secured a small flow from a deep well. The gas-rock was struck at 1,328 feet, but only a very moderate flow was secured. The well now yields less than 10,000 cubic feet *per diem*.

Inasmuch as Findlay is the point at which the discovery of this new source of gas was made, and as it is still the main center of production, an account of its wells will cover, so far as the general facts are concerned, the entire field.

Findlay occupies a part of the great drift plain that covers all of Northwestern Ohio. It is traversed by Blanchard's Fork of the Anglaize river, which flows through the town on a rocky bed, the level of which is twenty to fifty feet below the surrounding country. The elevation of the town above the sea is about 780 feet. (Elevation of depot of Lake Erie & Wsstern R.R., 782 feet.) Within the limits of the town the drift-beds are comparatively shallow and the bed rock is reached in wells and other excavations that are undertaken.

The rock that underlies the central part of the town is the Niagara limestone, in one of its common phases in this part of the State. It is here a fairly even-bedded magnesian limestone, the courses ranging from four to twelve inches in thickness, buff or grayish-blue in color, rather sparingly fossiliferous, and yielding a somewhat rough but strong building stone. The quarries are located along the banks of the stream. The stone shows unusual marks of disturbance for this portion of the State. The local dips are considerable, the beds rising or falling fifteen or twenty feet in the course of a few rods, as shown in the quarries already named.

On the south side of the town, in a quite conspicuous ridge that traverses the country, limestone rock is again found, but it is a higher formation than that shown in the town quarries. It is the waterlime of Lower Helderberg age, having the normal characteristics of this formation in every respect. It is quarried for lime-burning and for road-metal in the small way. It is magnesian in composition throughout, but parts of the stone where exposed are found to be nearly a true dolomite, and the stone of this character yields a good quality of lime.

The facts thus briefly sketched bring before us the essential features of the geology of the district—a flat-lying surface covered with drift-beds from five to fifty feet in thickness, but on the whole somewhat lighter here than in the surrounding country, the two great limestones of Upper Silurian age of Northern Ohio both appearing in limited exposures within the boundaries of the town and one or other being reached in almost all wells and like excavations that are undertaken here.

With a few modifications this description would apply to many thousand square miles in this part of Ohio.

What led to the development of a productive gas-field in this particular area? Oil-fields and gas-fields, if one must tell the truth, have not thus far owed very much for their discovery or development to geology. This field furnishes no exception, in this respect. The geologist is thus far obliged, in the main, to follow the driller, not to lead the way.

With the facts then at his command, the geologist would, in the autumn of the last year, if called upon to advise as to the wisdom of spending several thousand dollars in a deep boring at Findlay, have been obliged to discountenance the scheme. He would have answered that there was no known reservoir of gas or oil underlying this part of Ohio. The analogies that practical people, unacquainted with the geology of the State, were relying on, viz: that gas had been found in the northern and eastern portions of the State by drilling 1,000 feet, less or more, had no value for him, because he knew that the bottom of these deepest drillings would be hundreds

of feet in the air at Findlay. He remembered, it is true, that the Trenton limestone which might with probability be inferred to make the deep floor of the country here, is a small producer of oil at the Manitoulin Islands, and that it has yielded large amounts of gas and oil in Southern Kentucky and Tennessee; but the drill holes that had gone down to its level in the State—at Columbus, at Cincinnati, at Eaton, at Level Station, and at several other points—had made no distinct mention of the rock, and certainly none of any notable supply of gas or oil from its horizon.

One fact, would, however, have given the geologist pause, if he had been a wise one, and if the fact had been fully known to him. That fact is this: The presence of gas in large amount has been known in Findlay from the date of its first occupation. It had been in fact a source of great inconvenience to the residents of the town in several ways. Its sulphurous products escaping through their wells made the water of many unfit for use. Accumulating in underground spaces, it was liable to cause explosions when carelessly or otherwise ignited. Many water wells produced so much gas that they were obliged to be discarded as sources of water-supply. Springs issuing from the sides of the drainage channels were often found to be producers of gas as well as water, and many were known in which the gas could be ignited at pleasure.

Nearly forty years ago a resident of Main street finding so much gas in the well he had begun as to render it valueless for the purposes for which he had dug it, determined nevertheless to get some good from his labor. He accordingly constructed a rude gas-holder, connected it by a few feet of pipe with the chimney of his sitting-room, and burned the gas there in a perforated gun-barrel, heating his room by the fire. That arrangement is still maintained in the same room where it was first introduced.

Prof. N. H. Winchell, in his account of the geology of the county for the State Geological Survey, in 1872 or thereabouts, made mention of this escape of gas in the town and of the trifling use made of it, that has been already noted; but the time had not yet come for the recognition of its great practical value. We see the significance of such facts now in the light of the experience of the last ten years, and should give very much more attention to such indications if brought before us.

The great importance which the production of natural gas has recently attained in Western Pennsylvania, led naturally to new interest in these surface indications. Some of the oldest residents of the town had all along had large faith in the possibilities of gas supply in Findlay and had often urged the development of this possible source of light and heat; but it needed the successful experience of other regions to bring a body of men together ready to make the outlay for a proper exploration. A company was formed, a driller was brought in from the Bradford field, and work, as already stated, was begun in September, 1884. The drilling proceeded without serious interruption, although the field was a new one in every sense of the word to the driller.

The published record as kept by the driller was as follows:

	Feet.
Drift	8
Limestone	160
Thin slate	2
Blue limestone	5
Soft limestone	70
Slate	38
Red Shale	33
Gray Shale	400
Brown Shale	352
Solid limestone, struck at 1092 feet, yielding a large volume of gas. Gas was found at intervals through much of the descent. Notable flows were found at 516, 618, 640 and 718 feet, enough being constantly supplied to run the engine for drilling.	

But the company was persuaded to continue its descent, all of the way in solid limestone to a depth of 1648 feet, with the hope of securing a larger outflow. No additions of importance were however made to the 1092 feet supply. The amount delivered by this well six months after its completion I estimated to be not less than 150,000 cubic feet *per diem*.

The well was cased at 257 feet, and no trouble from water was experienced in subsequent drilling. The gas-rock produces, however, a small amount of salt water and also a dripping of petroleum.

The discovery naturally created great interest and excitement throughout the community. Other wells were at once projected and begun, but it was not until the early summer of the present year that the gas began to be utilized to any considerable extent. It is now used in machine-shops and mills, for steam production generally, for lighting the town and especially for domestic supply. The town is being rapidly provided with facilities for its use in any and every way by two rival companies, the rates being very low. The usual experience in explosions has followed its introduction. New wells are being added to the six already in operation, although up to the present date the production has been many times in advance of the demand. The largest well has, however, been brought into subjection, and the gas is now held in it, at a steady pressure of 400 pounds to the square inch.

It is the *geology* of the gas well in which we are chiefly interested. What, then, are the features to be especially noted in this connection?

Fortunately, one of the projectors of the first well, Mr. C. J. Eckels, saved with great care and painstaking samples of the drillings brought up from the well, the drillings being taken at all changes, in any case, and generally at very frequent intervals. The first well at Bowling Green was also made to yield a very clear and full record of itself by the drillings that were saved. Other wells also yielded many samples, and from a careful study of all, a very clear and easily-interpreted geological order becomes apparent.

One or two words by way of introduction may be necessary in setting this new record in proper light.

It is to be borne in mind that the Niagara limestone, under the phase already described, is the lowest rock anywhere shown in Northern Ohio. To reach its bottom beds and the underlying Cliuton limestone, we should be obliged to go as far south as Piqua, Springfield and Eaton. The maximum thickness of the Niagara series in Southern Ohio, where the whole formation can be found and measured in open section is 400 feet. The maximum thickness of the Clinton limestone is perhaps 50 feet. The average of each is much less than the maximum.

Underlying the Clinton limestone throughout Southwestern Ohio in most typical sections is found 10 to 30 feet of red shale, that was first described, so far as I know, in my report of 1869. This bed I referred with some hesitation and necessary uncertainty to the Medina horizon, basing the reference on the stratigraphical position of the bed, aided by its color. It carried no determinable fossils.

Under the Medina shale came the bottom rocks of the Ohio scale, a series 800 feet thick of interstratified sheets of calcareous shale and beds of blue limestone, both rich in exquisitely-preserved fossils, constituting in fact one of the great storehouses of Lower Silurian life for the known world. The upper and main portions of this homogeneous series was recognized forty years ago by Hall as the equivalent of his Hudson River group of

New York. At a later date a number of fossils were found in the bottom beds of the Cincinnati section that belonged in the Utica shale of New York. Throughout the series, however, the most characteristic and abundant of the fossils of the Trenton limestone of the East were everywhere distributed.

In view of these facts and because no clear lines of separation could apparently be drawn within the series, Newberry and others rejected the application of the term, *Hudson River Group*, to the rocks of the Cincinnati section, and applied to them instead the name *Cincinnati Group*. Newberry distinctly rejected the latter term as an equivalent of the term *Hudson River Group*, but stated that the new term covered rocks of Hudson River, Utica and Trenton age. In Ohio and other States other geologists took a distinctly different view and proposed to replace Hudson River with Cincinnati in the general scale.

It is not necessary to go over the controversy that has arisen over these points. I will simply remark in passing that Newberry's ground seems to me to be well taken, as far as the two uppermost elements are concerned, and deserving to be maintained. I am well satisfied that the lowermost bed of the Cincinnati section were formed in the Utica epoch and that the upper beds were coeval with the Hudson River series of the East; but I find no line of division that can be drawn through the section as shown at Cincinnati by which we can say, "Thus far shalt thou come." No good claim can be made for the occurrence of the Trenton Limestone in Ohio, but in Kentucky it occurs in unmistakable characters. Thus much in regard to the lower portions of the general scale of the State so far as it could be known before these drillings in northern Ohio.

You will bear in mind the horizon at which the wells of Findlay begin, viz: at or very near the summit of the Niagara limestone. The drill descended through fossiliferous magnesian, cream-colored, drab and blue limestones with an occasional shaly parting for about 275 feet in the first well. A considerably greater thickness was found in three of the later wells. The drillings from 180 feet yield the following results on analysis, viz:

Carbonate of lime	52.4
Carbonate of magnesia	41.5
Residue—silicious mainly	3 9

These figures match very well with the composition of the lower Niagara on the outcrop.

Drillings taken from a depth of 225 feet in well No. 3 (1), Findlay, and from a depth of 260 feet at Bowling Green (2), resembling in their high colors and crystalline condition the Clinton limestone of Southern Ohio, do not agree with the latter in composition, but agree fairly well with each other, the samples coming from places thirty miles apart.

The figures are as follows:

	1.	2.
Carbonate of lime	50 27	51.62
Carbon te of magnesia	4 .63	44.08
Residue	6.60	0.97

The Niagara Shale, so important an element in the type section of the Falls and also in Southern Ohio, seems reduced to a minimum here. It seems to be represented in 2 to 6 feet of very white, waxy clay that attracted the attention of the drillers in almost every well, but which did not find its way into the records kept by them. This clay was fossiliferous, as it is at Dayton, where it has yielded a number of new species of fossils along with many older ones.

The Clinton group seems to consist of calcareous shale in its lower portion for 30 to 40 feet.

The underlying Medina shale is a well marked and conspicuous element in every record. It is red in color, alternating with blue shales in some records. The smallest measure, seemingly, held by it in any well is 53 feet, but there is reason to believe this too small. It rose in the Fostoria record, twenty miles to the eastward, to 213 feet. No recognizable traces of fossils are found in it, and the absence of calcareous matter from its composition supports the view that this belt is, as elsewhere, barren of life.

The next formation is well characterized. It is a calcareous, gray or light-blue shale, highly fossiliferous, 300 to 400 feet in thickness. The fossils most abundant in it are the ribs of brachiopod shells. I think I cannot be mistaken in identifying *Zygosperi Modesta* in some fragments, and also *Orthis testudinaria*. I find also a *beyrichina* and a *Philodiatys*.

It was in this formation that the pockets of gas already noted were first found. The gas came with great force when first released, but the pressure was generally reduced in 48 hours to a moderate amount.

The reference of this calcareous and fossiliferous belt to the Hudson River group of New York will not be called in question.

Still less will any question be raised as to the name and place in the series of 250 to 275 feet of dark-brown or black, sparingly-fossiliferous but somewhat calcareous shales, that come next below in order. No one would question their reference to the Utica epoch. But fortunately this stratum yielded larger fragments to the drill than most portions of the series. On some of these fragments, a characteristic, perhaps the most characteristic of the fossils of the Utica shale in its Eastern development, was found, viz: *Leptobotus insignis* (Hall). I found specimens of this shell both at Findlay and at Bowling Green. Professor Whitfield confirms my reference in unequivocal terms. Fragments of spines that I was disposed to refer to a fossil described by Walcott, from the Utica of New York, Professor Whitfield does not so refer, but says that similar forms abound in the characteristic Utica everywhere.

Having descended thus far without great chance for discordant interpretations, we come to the gas-rock, the GAS-SAND or OIL SAND of the Pennsylvania driller. He has no conception of any other receptacle for oil or gas but a sandstone or conglomerate. Analysis of the formation in question is here given, the drillings or chips following the torpedoing of the wells in some instances affording every needed opportunity for studying the structure of the rock as well.

Analysis (partial) of the oil-rock or gas-rock are given herewith from Findlay (1), Bowling Green (2), Lima (3), and Fostoria (4):

	1.	2.	3	4.
Carbo ate of lime	47.05	49.19	52.66	61.50
Carbonate of magnesia	33.38	40.31	37.53	27.30
Residue	11.73	7 76	4.15	5.82

These figures indicate an impure limestone, agreeing with phases of the Trenton elsewhere, and not very closely resembling any limestones that have outcrops in Ohio.

The physical structure has been referred to. The rock is porous to a marked degree. I have not yet had opportunity to make careful study of the fragments secured, but it is obviously a rock that is adapted to the purposes to which it is used, viz: as a receptacle for gas and oil. Not less than 500 feet of this limestone have been traversed by the drill, in one instance without finding bottom or without adding to the supplies of gas. Nothing has thus far been gained by going more than ten or fifteen feet into the rock.

The gas does not come to the surface when the rock is

first reached with the tremendous force of that from the Pennsylvania wells, but it seems to gather volume steadily for some hours or even days. I have omitted noticing the fact that a "blower" of great force was found in the Utica shale in the Bowling Green well, the pressure of which was, however, soon abated.

The yield of the Findlay wells has been already given. They may be said to range, if we can rely upon the mode of measurement employed, from a little below 100,000 to somewhat more than 1,200,000 cubic feet *per diem*. I wish to say a word as to the mode of measurement. Mr. E. McMillin, Superintendent of the Columbus Gas Works, and an expert in the production and management of artificial gas, suggested the *anemometer* as a proper instrument for determining the flow of these wells, and made, in conjunction with the writer, the first application of it to the Findlay wells. The use of the instrument was original with him, but I cannot doubt that the same plan has suggested itself to others and also been put into effect. The instruments are not made strong enough to endure the tremendous force of the great Pennsylvania wells, unless the current is divided to a small fraction of its direct power.

As to the composition of the gas, I am sorry to say that I have not at hand the records of analysis. There are notable amounts of carbonic and hydrosulphuric acids. The latter gives a rank odor to the gas, and though disagreeable under the bad gas-fitting of a small town, it still serves a useful purpose in giving warning of dangerous leaks. The gas has moderate illuminating power. The Fremont gas is much less offensive than that of Findlay.

Petroleum is also a product of these wells. More or less is obtained from all, but No. 1 Lima and No. 5 Findlay seem thus far to have the largest supply.

The oil is alike from all of the wells, so far as tested. In gravity, it ranges from 35 deg. to 36 deg. Beaume. It is "black oil," so called, and it carries, as does the gas, a notable quantity of sulphurous compounds that make it quite offensive. This fact, together with its low gravity, put it at a disadvantage for refining. At the same time it does not carry a large amount of lubricating oil. Its value still remains to be determined, supposing that any territory can be found that will produce it in large amount. This point has not yet been demonstrated or even made fairly probable.

The stratigraphical relations of the gas-producing rocks have been briefly pointed out. It remains to call attention in the same hurried manner to the relation of the discovery to a fact of great importance in the *structural* geology of the State viz: to the *Cincinnati Axis.*

Newberry has already shown the central relation that this low fold sustains to the geology of the western half of Ohio, and I have pointed out from time to time its intimate connection with the growth of Central and Eastern Ohio. Before the records of these newly-drilled wells were furnished to us we were certainly unable to locate the axis with any degree of precision. Nor yet now are we able. It appears, however, that the location assigned by Newberry is much too far to the eastward. In his location he was guided to some extent by the islands of Lake Erie, which he regarded as carried on the back of the fold: but so far as the new wells throw light on the question, they would indicate the highest part of the arch, and the arch is a very low one certainly, to be 30 miles or more to the westward. Findlay seems to lie on its highest portion, from the present records, and Bowling Green, the only other point where a good flow of gas has been secured, comes into line with it.

Taking the Trenton limestone as the most available stratum to measure from we find its upper surface to be below tidewater, as follows:

	Feet.
At Findlay	3?0
At Bowling Green	387
At Lima	446
At Fostoria	471
At Fremont	696

It must be added, however, that there is a large and surprising range in the Findlay wells. The three northern and shallower wells, and also the least productive, come from the highest elevation of the gas-bearing rock. In the southern wells we find the limestone nearly 100 feet deeper.

The direction of the axis, so far as indicated by the few facts now in hand, is nearly north, and would seem to strike Toledo rather than the islands. More facts will, however, soon be available, and a safer conclusion will be possible.

The facts already named serve to show that the new gas field is contributing a good deal to our knowledge of the geology of the State. Up to this date we have had but one really productive oil and gas horizon, viz: the Berea Grit. It is the Mecca, the Grafton and the Macksburg oil sand, the Ohio Valley gas sand, and, as I believe, the source of the high-pressure gas wells of Pittsburgh and vicinity; but now a distinctly new horizon comes to light, 2,500 feet or more below the Berea Grit in stratigraphical order, and a *limestone*. Up to this date we have had only sandstone reservoirs and only black shales as the probable sources of gas and oil, but now the other claimant comes into court.

The limestone oils are characterized by a rank and disagreeable odor. In this, they agree from all the fields that are represented—Canada, Ohio, Kentucky and Tennessee.

They also are marked by a gravity of about 36 deg., and by a dark or black color. We cannot refer them to plant remains with any show of probability, and so it would appear that oil and gas both come into circulation from the double sources, plant and animal life, and that the products of these two separate sources are possibly distinguishable from each other by their physical and chemical characteristics.

It also appears that Northern Ohio in its mode of growth and lithological characters is much more in accord with the Eastern States, and especially with New York and Canada, than is Southern Ohio, and further, that the scale cannot be divided into exactly the same divisions in the two extremes of the State. The wells that are certain to be drilled along the axis will give us new and most valuable information on this and kindred points.

It also appears that White's adaptation of the theory of uplifts and axes to gas production receives confirmation to some extent from the facts of the Findlay field. The two productive centers thus far found lie on the highest portion of the Cincinnati arch. The doctrine is certainly reasonable in appearance, and we cannot be surprised at such confirmation.

A good flow of natural gas was struck at the Gill well No. 2, on the Sanders farm in Brooke county, W. Va., five miles below Steubenville, O., on the morning of the 31st of August. It is owned by J. J. Gill, of Steubenville, and is about 800 yards from the old Porter well.

George Westinghouse has leased 10,000 acres of land for gas purposes, along the Ohio river between Imperial and Mentone City. Two wells will be immediately put down.

THE RUSSIAN PETROLEUM INDUSTRY.

BY BOVERTON REDWOOD, F.I.C., F.C.S.

[Continued from Page 1091.]

II. REFINING.

THERE are about 200 refineries in the Tchorni Gorod or Black Town, at Baku, but at the time of my visit not more than 50 or 60 were in operation. The works range in size from the primitive Persian refinery, with a couple of stills, to the gigantic establishment of Nobel Brothers, and at all these works petroleum residuum is the sole fuel used.

Messrs. Nobel's plant, for separating the burning oil or kerosene, as we may conveniently term it, consists of a large number of stills, each of the capacity of 4,400 gallons, arranged in groups or series of not more than 25, and worked on the principle of continuous distillation, a stream of oil flowing through the entire series. Mr. Nobel informs me that this method of distillation isspecially adapted for Russian petroleum, since from such oil only a comparatively small percentage of kerosene is obtained, and the residuum flowing from the stills is almost as fluid as the crude petroleum. The products of distillation are first separated into three fractions, termed respectively benzene, sp. gr. .754; gasolene, sp. gr. .787; and kerosene, sp. gr. 820 to 822. There is but little demand for the lighter products, and though a certain quantity is sold for detergent and manufacturing purposes, and a further quantity is employed by Messrs. Nobel as fuel, much has to be burned in waste to get rid of it. The kerosene distillate is pumped into lead-lined iron tanks, termed agitators, of the capacity of 57,000 gallons, where it is treated with about 1½ per cent. of sulphuric acid. The acid is forced up to the top of these tanks—which are above ground—by air pressure, and is distributed through perforated coils of leaden pipes, so that it falls through the oil in fine streams. The oil and acid are then subjected to agitation by introducing a blast of air at the base of the tank. After this treatment the acid is allowed to subside, and the oil is drawn off into a similar-sized iron tank without lead lining, standing at a lower level. In this tank, which is furnished with a similar method of agitating, the oil is treated with a solution of caustic soda and is afterwards washed. Fresh water being very scarce at Baku, sea water is used for washing the oil as well as the condensers. The sea water is brought into Messrs. Nobel's refinery from the Caspian by an aqueduct 5 feet in diameter, the intake being 7 feet below the sea surface and 300 feet from the shore. The temperature of the water in summer is about 22 deg. R. (82 deg. F.). The kerosene is run from the washing agitators into settling tanks, where it deposits water, and thence is pumped into storage tanks—one of which at Messrs. Nobel's works holds 1½ million gallons—preparatory to being placed in the tank steamers for conveyance to the mouth of the Volga. The whole process of treatment of the ditillate occupies from 15 to 16 hours. The sulphuric acid used by Messrs. Nobel is made by them in a separate factory, where 3,100 gallons per 24 hours can be turned out. The sulphur was formerly imported from Sicily, but is now obtained from Tchirkat in Daghestan, near the port of Petrovsk on the Caspian. There is at Baku another factory, where sulphuric acid for the use of the other refiners is made. Although there are no laws or regulations in Russia prescribing a test for petroleum, Messrs. Nobel prefer to make a burning oil having a flashing point considerably above that which experience has shown to be sufficient to insure safety in the case of American kerosene, Nobel's oil having a flashing point of about 32 deg. C., when tested by the German modification of Sir Frederick Abel's well-known apparatus. The oil has a specific gravity of about ·821, and is almost free from color and odor. Of this oil the crude petroleum yields only about 27 per cent., but a much larger percentage of oil of lower flashing point or higher specific gravity could be obtained. Of oil absolutely free from color, of sp. gr. ·823, and flashing point 50 deg. C., Abel-Pensky test, the crude oil yields about 22 per cent. At another refinery which I visited (that of the Caspian Company), I was informed that the following grades of kerosene were made:

Quality.	Sp. Gr.	Flashing Point.
1	·815	30 deg. C.
2	·820	25 deg. C.
3	·821 to ·822	22 deg. C.

Of the first quality, some of which is exported from Batoum, the crude oil is stated to yield 20 per cent.; of the second quality sold in Russia, 33 per cent.; the third quality sold locally for consumption in the Caucasian district, 38 per cent. The crude petroleum of the United States yields not less than 70 per cent. of kerosene.

The residue in the stills after the kerosene has been volatilized has a sp. gr. of about .903, and is known by the Russian name of astatki, or by the Tartar name of masut. It is usually stored in large excavated tanks, lined with masonry. Messrs. Nobel have a cylindrical tank of this description holding 11,000,000 gallons.

From the astatki, lubricating oil is obtained by distillation, but in Messrs. Nobel's works only about 10 per cent. of the astatki has hitherto been thus dealt with. Of the remainder Messrs. Nobel use a small portion for the heating of their stills and boiler, and sell the greater part as fuel. The astatki yields about 30 per cent. of lubricating oil, and about 15 per cent. of what is known as solar oil (sp. gr. about .860 and flashing point 220 deg. F.—closed-vessel test). The latter is a product intermediate in sp. gr. and flashing point between the kerosene and the lubricating oil, and is capable of being burned in suitable lamps, two of which I have on the table. It has by some refiners been termed pyro-naptha, and Messrs. Ragosine have introduced it as a "safety burning oil;" but so far it has been difficult of sale, and it is usually returned to the astatki and thus employed as fuel. I have on the table specimens of the various products to which I have referred. The crude petroleum of Baku differs from that of the United States in containing little or none of the solid hydrocarbons; some of the crude oil of this district appears, in fact, to be practically free from solid hydrocarbons, and I believe that one-quarter per cent. is the largest quantity that any of it contains. On the other hand, the petroleum obtained from Messrs. Nobel's wells in the Island of Tcheleken, on the opposite side of the Caspian Sea, yields as much as 6 per cent. of solid hydrocarbons. It is well known that the paraffine obtained from American petroleum is a source of considerable profit, but while the Baku refiner is at a disadvantage in this respect, he is enabled to make without difficulty or expense a lubricating oil which bears exposure to a temperatare below zero of Fahrenheit's scale without becoming solidified.

There are in the Baku district other refineries besides those situated in the Black Town. One of these (Koekereff's) is at Surakhani, on the site of the Eternal fires, the distillery immediately adjoining the temple I have already described. This refinery was built with the view of using the natural petroleum gas as fuel, and elaborate arrangements were made for collecting the gas and conducting it beneath the stills, but when I visited the distillery astatki was being used as fuel. The abundance of

natural gas in the neighborhood of this refinery is shown by the fact that the gas is now, as it has been from time immemorial, largely used in lime-burning. There is plenty of limestone rock, and the lime-burners simply turn up the surface of the ground and apply a light to the gas.

Messrs. Nobel's refinery is not only the largest, best-constructed and best-conducted at Baku, but it compares, I think, on the whole favorably with any I have seen in the United States. Portions of it are fitted with Siemens' electric light, and some idea of its magnitude may be gathered from the fact that it contains no less than 45 miles of piping. It covers from 75 to 80 acres, but the total area of the works, if the ground occupied by the houses of the employes is included is 120 acres. In this connection I may mention that Mr. Nobel has erected a number of handsome dwellings and a club house for the general manager of the works, the chemists and engineers, and has planted gardens which are irrigated with water brought from the Volga.

Mr. Peacock estimates that 8,000 men are employed in the petroleum industry at Baku, the common laborers being nearly all Tartars, Persians and Armenians, while the coopers, carpenters and other skilled workmen are Russians, Finns and Swedes. The wages of the former class are as low as 10d. per day, or about 25s. per month, while those of the latter class range from £3 to £6 per month.

The following table shows the amount of kerosene manufactured during the last thirteen years by Messrs. Nobel Brothers and the other refiners:

Years.	Nobel Bros. Tons.	All other refiners. Tons.	Total. Tons.
1872	----	16,400	16,400
1873	----	24,500	24,500
1874	----	23,600	23,600
1875	----	32,600	32,600
1876	100	57,000	57,100
1877	2,500	75,100	77,600
1878	4,550	93,000	97,550
1879	9,000	101,000	110,000
1880	24,000	126,000	150,000
1881	50,000	133,000	183,000
1882	72,000	130,000	202,000
1883	106,000	100,000	206,000
1884	157,100	191,300	348,400

The price at Tsaritsin was in 1878, 3s. per 5 gallons, and is now about 1s. 3d.

The total exports of kerosene from Russia for 1884, amounted to 37,900 tons, of which Nobels manufactured 15,000 tons.

I estimate the quantity of kerosene manufactured from American crude petroleum in 1884 at more than 2,000,000 tons.

The following tabular statement shows the increase in consumption of kerosene in Russia per head of the population. The figures are Russian pounds;

CONSUMPTION PER HEAD OF POPULATION.

1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882
1.09	1 76	1.93	2.30	2.91	3.07	3.96	4.18	4.43	6.11	6.14

The distilling plant of the Nobel Company would enable them to make per 24 hours, 220,000 gallons of kerosene, 80 tons of lubricating oil, and 1,300 tons of liquid fuel, equal to a yearly production of at least 65,000,000 gallons, 27,000 tons, and 450,000 tons of the three products respectively. We have already seen that the quantity of kerosene made by this firm last year was 157,100 tons, equal to 42,700,000 gallons, and it is estimated that the sales of lubricating oil and residuum for the same period amount to 3,000 tons and 250,000 tons respectively. If, therefore, Nobel's works were continuously in full operation throughout the year, there would remain a surplus available for export of more than 22,000,000 gallons of kerosene, 24,000 tons of lubricating oil, and 200,000 tons of liquid fuel.

The native petroleum industry is protected in Russia by an import duty on American kerosene of 55 copecks per pood, equal to about 3d. per gallon, and since 1873 imports of American kerosene into Russia have diminished year by year. At the present time practically the whole of the kerosene burned in Russia is manufactured at Baku.

The quality of the kerosene made from Russian petroleum has been the subject of much discussion. When the oil was first introduced into Europe its high specific gravity led to the belief that it would not be found to burn well in ordinary mineral oil lamps. The fact was, however, overlooked that the crude oil yields so small a percentage of kerosene, that this product is necessarily very homogenous, the various hydrocarbons composing it not differing very widely in specific gravity, boiling point and other characteristics. This feature is clearly shown by the following results, which I have obtained in fractionally distilling samples of Russian and American crude petroleum and kerosene obtained therefrom. A measured quantity of the liquor was distilled, and each distillate was one-tenth by volume of the quantity taken for distillation:

	Baku crude Petroleum. (Sp. gr. .873)	United States crude petro'm: From Bradford district. (Sp. gr. .819)	United States crude petro'm: From Parker District. (Sp. gr. .804
	Sp. gr.	Sp. gr.	Sp. gr.
1st fraction	.787	.725	.724
2nd "	.812	.753	.742
3rd "	.839	.776	.760
4th "	.855	.801	.778
5th "	.864	.822	.798
6th "	.848	.836	.818
7th "	.839	.837	.825
8th "	.847	.839	.831
9th "	.857	.843	.846

The distillation was throughout conducted without passing steam into the retort, and there was therefore, especially in the case of the Baku petroleum, some decomposition or "cracking" of the hydrocarbons, accompanied by the evolution of gaseous products and deposition of carbon. This accounts for the low specific gravity of the latter fractions of the Baku oil, and for the fact that there was not in every case, sufficient of the 10th fraction to admit of the specific gravity being taken. It was, however, only desired to indicate that the Baku petroleum yields comparatively little kerosene, and no arrangements were therefore adopted to secure the distillation of the lubricating oil undecomposed.

	Russian kerosene. [Sp. gr. .822]	American kerosene. [Sp. gr. .803
	Sp. gr.	Sp. gr.
1st fraction	.783	.748
2d "	.796	.759
3rd "	.803	.778
4th "	.814	.792
5th "	.827	.802
6th "	.831	.812
7th "	.837	.822
8th "	.838	.831
9th "	.846	.838
10th "	.864	.849

A reference to the tables will show: 1. That the Russian crude petroleum contains a comparatively small proportion of the lighter hydrocarbons. 2. That in the case of the Russian kerosene there is less difference between the specific gravity of the lightest and heaviest fractions than in the case of the American kerosene.

I have made a large number of photometric tests of Russian kerosene burning in ordinary lamps in comparison with American kerosene, on various occasions during the past eighteen months, and in the following table I give some of the most recent results obtained, the Russian oil used in these experiments being of Nobel's manufacture, and the American oil ordinary kerosene of good quality. The test lamp was fitted with Hink's duplex burner, and two varieties of wick were used. What is termed the American wick was a wick of longstaple cotton loosely woven, the English wick being a comparatively hard, tightly-woven wick such as is commonly employed in this country. I may take this opportunity of stating that I have not found any exception to the rule that all mineral oils burn far more satisfactorily as well as more safely, when a wick of the character of the American wick referred to is used, and I am of opinion that too little attention has hitherto been paid to this important adjunct to the lamp.

	Russian Kerosene.		American Kerosene.	
	American wick. Standard candles.	English wick. Standard candles.	American wick. Standard candles.	English wick. Standard candles.
Maximum illuminating power	22·1	19·14	25·59	24·35
Minimum " after 6 hours	20·5	17·4	22·24	19·16
Average " during 6 hours	21·3	18·04	23·96	22·14
Percentage falling off in illum'g power in 6 hours	7·2	9·0	13·0	20·9
Grains of oil consumed per hour	1137	981·6	1238	1313
Grains of oil consumed per candle light per hour	53·6	54·4	51·6	54·7

It will be noted that the Russian oil did not with either wick give as much light as was afforded by the sample of American oil, but on the other hand there was considerably less diminution in the light as the level of the oil in the reservoir of the lamp fell, and I may state that the latter feature has characterized all the comparative tests I have made of the two kinds of oil. I have tested the Russian oil in various other kinds of burner used in this country and on the continent, and except in the case of a burner in which a metal cone was substituted for the usual glass chimney, I have found that it burns satisfactorily. I have therefore no hesitation in saying that it is adapted for use in ordinary mineral oil lamps.

Russian kerosene is, as I have stated, almost free from color, that which is manufactured by Messrs. Nobel being what is technically termed superfine white, according to the method of testing and standards of the Petroleum Association. Formerly the color of refined petroleum was estimated by comparing it with that of a standard sample, the two oils being contained in bottles of the same size. Several years ago I had an apparatus constructed for color testing, which is now on the table. It consists simply of an arrangement for holding two tall glass cylinders above a mirror in such a position that the images of the bottoms of the cylinders are presented side by side. The oil to be tested to be placed in one cylinder, and a standard sample in the other, it is easy to make an accurate comparison of the reflected discs, which are, of course, tinted in proportion to the color of the liquids. I found this method of estimating color preferable, in the case of a fluorescent liquid like petroleum, to that of looking down upon the surface of the oil while the tube or cylinder is held over a white surface. Soon after I commenced the regular use of this apparatus, Mr. Robert P. Wilson, a member of the Committee of the Petroleum Association, invented and patented (in 1870) the chronometer now largely used in the trade. This instrument consists of two tubes arranged side by side and furnished at the lower end with a small mirror, by means of which light may be reflected upwards through them, each tube having a screw cap with glass centre. Above the upper ends of the tubes is fixed a small box containing two pairs of prisms, and above this is an eye-piece.

Up to this time it had been the custom to use standard samples of kerosene for comparison; but these were liable to alter in color, and it was by no means the least valuable feature of Mr. Wilson's instrument that glass standards were substituted for the liquid standards previously employed. In using the apparatus one of the two tubes is completely filled with the oil to be tested, and beneath the other tube is placed one of the standards, consisting of a disc of stained glass about the size of a shilling. The mirror is then adjusted so as to project the light through the tubes, and upon looking into the eye-piece a circular field divided down the centre is seen, the halves being tinted to an extent corresponding with the color of the oil and of the glass standard respectively. The dividing line is formed by the edges of the two pairs of prisms referred to, and the prisms are employed to bring the light from the two tubes into one eye-piece. Wilson's chronometer was, after a sufficient trial, adopted in 1872 by the Petroleum Association, and is now in use in America and on the European continent, as well as in this country.

I have on the table a German modification by Stammer of this instrument. In Stammer's apparatus, which in principle resembles the chronometer already described, the tube containing the oil under examination is open at the top, and is fitted with an inner empty tube, also open at the the top and closed at the bottom by a disc of glass. The inuer tube is in the first instance raised to the highest point, and a glass standard somewhat paler in color than the whole column of oil having been selected, the inner tube is lowered, the oil being gradually displaced and the column of liquid shortened until the two colors match, when the extent of shortening is read off on the scale. The precise color of the oil can thus be recorded.

Lubricating oil made from Baku petroleum was, I believe, first introduced into England by Mr. Victor Ragosine, in 1877, and is now sold by the firm of Ragosine & Co., under the registered names of "Oleonaphtha" or

"Ragosine Oil," in Germany, France, Austria and Belgium, as well as in this country. This firm has two refineries on the Volga, north of Nijni Novgorod, capable of turning out a quarter of a million barrels a year. The crude oil and residuum are brought from Baku via the Caspian and Volga and the refined products are conveyed to the consuming countries via the Volga and maritime canal to Cronstadt. The water route, though circuitous, is economical, and is likely to be adhered to until the raw material can be piped from Baku to the shores of the Black Sea. The imports of Ragosine lubricating oil into France and Belgium since 1877 amount to 187,000 barrels.

Russian lubricating oil, besides being, as a rule, practically free from solid hydrocarbons, and therefore bearing exposure to very low temperatures without becoming solidified, and thus clogging the bearings of machinery, has a remarkably high viscosity in relation to its specific gravity. This characteristic is very clearly exhibited in the following tabular statement of results which I have obtained in determining the viscosities of samples of Russian and American lubricating oils for the purpose of comparison:

	Viscosity at 70° F.	Viscosity at 120° F.	Loss in Viscosity per ct.
Russian oil (sp. gr. ·913)	1400	166	88
American oil (sp. gr. ·914)	231	66	71
Russian oil (sp. gr. ·907)	649	135	79
American oil (sp. gr. ·907)	171	58	66
Russian oil (sp. gr. ·898)	173	56	67
American oil (sp. gr. ·891)	81	40	50
A sample of refined rape oil (for comparison)	321	112	65

It has been pointed out that although Russian lubricating oil has a very high viscosity, it rapidly loses its "body" upon being raised in temperature, and a reference to the viscosity figures for temperatures of 70 deg. and 120 deg. F. in the table will show that this is the case, the loss in viscosity between the two temperatures being in the case of a sample having a sp. gr. of ·907,79 per cent. against 66 per cent. in the case of an American sample of the same sp. gr. Where it is desirable, however, to employ an oil of high viscosity at comparatively low temperatures, as in the lubrication of slow-running heavy machinery, the Russian product is superior to the American. Moreover, it may be urged that it is because of its high viscosity that Russian lubricating oil is so much affected by a rise of temperature, for it will be noted that in the case of the American oils, as well as in that of the Russian oils, the diminution in viscosity is in proportion to the viscosity, the oils of greatest body being most affected. It is well known that mineral lubricating oils possess, as compared with fixed oils, the advantage of not being liable to decomposition under the influence of high pressure steam, or to oxidation. They are, therefore, well adapted for the lubrication of engine cylinders, and cotton waste used to absorb them is not liable to spontaneous combustion.

I have already stated that petroleum residuum or astatki is the only fuel employed in distilling petroleum at Baku. The most simple manner in which this fuel can be used is that which is adopted in the primitive Persian refineries, where the liquid is allowed to trickle upon the floor of the furnace beneath the still, and to burn there. The combustion is however, under these circumstances, very far from complete, and volumes of black smoke are evolved. This smoke hangs in dense clouds over the Tchorni Gorod or Black Town of Baku, and is particularly offensive and destructive of wearing apparel and furniture, as it is so highly charged with oily particles of carbon that it may, in fact, be termed vaporous black paint. At the Nobel Company's refinery and some others efficient arrangements for the combustion of astatki are adopted and little or no smoke is evolved. Before I proceed to describe these arrangements, it will be convenient to consider briefly the development of the use of liquid fuel. As long ago as 1862 patents were taken out in the United States by Bidley, by Shaw, and by Linton, for the use of liquid fuel, and in 1864 experiments were made at Woolwich, with an apparatus invented by Richardson. Aydon Shpakovsky in 1865 independently devised arrangements for injecting the fuel into the furnace in the condition of spray, the former at first using superheated steam, and afterwards ordinary steam for the purpose, while the latter employed a blast of air. In the same year Professor Rankine gave his attention to the subject, and in 1877, H. St. Claire Deville commenced a number of experiments at the request of the Emperor Napoleon III. Deville's apparatus was put to a practical test in Russia by Kamensky, and afterwards by Lentz in 1869, but proved a failure. In 1879 experiments were made at the Brooklyn Navy Yard, in the United States, with a mixture of crude petroleum and pitch, blown into the furnace by a jet of super-heated steam, and a very high temperature was obtained, iron being melted in ten minutes and glass in two hours, as compared with two hours and sixteen hours respectively when coal was employed as the fuel. In 1870, a steamer called the "Alexi" was fitted with an improved apparatus by Shpakovsky, and a successful result was obtained. Meanwhile, Lentz had also improved his apparatus, and either the Lentz oil burner, or some modification of it, is now employed in the better conducted refineries at Baku. The construction of one of these modifications (Kaufman's) has been adopted by the Russian government for use in torpedo boats, the cylindrical flame afforded being well suited to the boilers of these boats. The apparatus consists essentially of an arrangement for spraying, or, as it is termed in Russia, pulverizing the oil by means of a jet of steam, a tongue of flame being in this way projected into the furnace. In thus using liquid fuel for the generation of steam, it is of course necessary in the first place to take a supply of steam from a small auxiliary-boiler, or to raise steam by the use of wood or other fuel. The greatest objection to this kind of apparatus lies in the fact that the intensely hot pointed flame is liable to have a prejudicial effect upon the boiler, and it has been found necessary to employ screens of fire-clay, against which the flame is directed. Minor objections to the system are that it is wasteful (for, besides the loss of steam, the heat obtained from the astatki is from 10 to 20 per cent. less than it is capable of yielding), and that it is noisy, the roar of the blast being, in some cases, very objectionable. Nevertheless, the apparatus is very largely used, and more than a hundred steamers on the Caspian and Volga, including those employed by the Nobel Company for the conveyance of kerosene, being fitted with it. Nobel's steamers, I may mention, consume 29 tons of astatki on the voyage from Baku to the mouth of the Volga and back.

(*To be Continued.*)

Four wells have been drilled for gas near Ross' Mill, in Chautauqua county, three of which are dry. The fourth contains a little gas.

Leechburg, in Armstrong county, Pa., claims to be the place where natural gas was first introduced for manufacturing purposes, its use having been inaugurated at the rolling mill in 1873.

PERMEABILITY OF SAND ROCK.

BY FREDERICK H. NEWELL, M E.

Among oil producers, there has been much discussion as to whether the sand-rock in which petroleum occurs is of necessity fissured or is still in its original unbroken condition.

The earliest and most natural theory, which for years was undisputed, and is still given by some text-books, was, that oil wells reached a cavity filled with petroleum.

Within the past few years, however, the opinion has been gaining ground that the oil is stored in the sand-rock itself in the minute spaces between the small grains of sand, not entirely filled by cementing material, and that crevices holding and conducting oil are rare, all fissures as a rule being confined to the upper fresh-water-bearing rocks of the well. Mr. Carll, in III Pennsylvania Second Geological Survey, has discussed this subject very fully, and has made estimates of the quantity of oil that the sand-rock can hold and deliver into a well; also, T. Sterry Hunt, in his *Chemical and Geological Essays*, has made deductions as to the petroleum contained in the Niagara limestone that outcrops about Chicago.

While the experiments and conclusions of these geologists go to prove that these rocks are capable of holding the oil, there are on record no facts as to the phenomena of its flow, other than by capillarity, through the rock. To obtain some data of the flow of liquids under pressure through certain oil-bearing stones, series of tests on small pieces were made. These tests were carried on during this Spring, and many results quite unlooked-for were obtained. When crude oil, kerosene, or water (river or distilled) was forced through the specimens, the pressure being constant, the rate of flow was variable. At first, the amount flowing through was large, then fell off rapidly, and when the flow had diminished to about one-quarter of its original rate, the decrease was very slight, but still continued as long as measurements were made, in some cases for three weeks.

When using crude oil, this result was not surprising, for, as the oil men say, crude "paraffines up" a rock, that is, clogs the minute pores by depositing solid paraffine); but this so-called paraffining took place, not only with crude oil, but with refined oil, and even with distilled water.

The only explanation as yet is, that liquids in flowing under pressure through rock on which they exert little or no dissolving effect, instead of washing out fine particles, tend to dislodge any minute grains of the stone that may not be firmly held by cement, and these block up extremely fine and crooked pores in which the fluid is passing.

Several tests indicated that this blocking up was largely near the surface into which the fluid was passing. When this surface was ground off, even 1-50 of an inch, the flow increased immediately nearly to the original rate.

Reversing the flow also had the effect of increasing the rate, even above that of any time previous.

With the moderate pressures used—from 2 to 80 of mercury—the results show that the rate of flow, other things being equal, is directly proportional to the pressure.

The porosity of a rock is not always a criterion of its permeability; fine-grained marble, containing about 0·6 per cent. cell-space, transmitted water and oil more freely than a shale that would hold 4 per cent. of its bulk of water.

If the above conclusions hold on a large scale as on the small, they may aid in explaining the diminished flow of oil wells. Not only will the flow lessen from reduced gas pressure, but the passages in the rock become less able to allow the oil to flow through.

The increase in flow following the explosion of large shots in a sand-rock may be due not only to fissuring of the rock, but to temporary reversal of the pressure, the force of the explosion tending to drive the oil back for an instant.

The large shots now used (up to 200 quarts, or say 660 pounds of nitro-glycerine,) must exert some influence of this kind, especially when held down by 500 feet, more or less, of liquid tamping. In the course of these tests, it was noticed that fresh water had a more energetic, disintegrating action on shales and clay, than salt water. This may furnish a reason for the fact noticed by oil men, that fresh water has a much more injurious effect than salt in clogging a well. No oil-bearing sand-rock is free from laminæ of shale, and when fresh water gets down into the sand, the water must, as the experiments show, rapidly break up the shale, setting free fine particles, which soon are driven along into the minute interstices of the sand-rock, plastering it up and injuring the well.—*Engineering and Mining Journal.*

ONE of the largest shipments of oil ever made on a single vessel was that by Meissner, Ackerman & Co., of New York, who loaded the British ship British Isle with 15,863 barrels of refined petroleum, consigned to Liverpool.

ACCORDING to the *Financial News* of London, there is a project in Italy for the formation of a strong company to investigate the petroleum wealth of Italy. Thus far there have been no deep borings in Italy; but the increased capital will cause experiments to be made to the depth of 1,600 or 1,800 feet.

CONSUL HARPER, of Munich, in his recent report to the State Department, says that: The railway directors of Hanover put this question to manufacturers: "To what extent would the introduction and development of trade in Russian petroleum in Germany imperil the sale of the American article and what steps should eventually be taken by the government railway management in regard to this competition?" In answer to this question, it was stated that it was to the interest of the German railway to protect American against Russian petroleum in order to prevent the latter being introduced into Germany by way of Fiume, Trieste and Genoa. If Caucasian petroleum is to be prevented having a considerable sale by this means in Germany, it could only be by reducing the tariff for petroleum to the North Sea ports. It was also stated that many places where the German petroleum trade now prevails, would soon be monopolized by others, unless a reduction of the tariff took place immediately. For instance, the Swiss markets of Antwerp and Genoa are said to be in danger of being lost to Germany in consequence of the Italian-Swiss treaty, while the freights in the trade with Austria-Hungary must be reduced, unless it be desired that this market shall pass to Trieste and Fiume, which ports have latterly been greatly protected through favorable tariff. As a result of a deputation to minister Mayback, the assurance has been given that steps will be taken to meet the requirements of the petroleum industry as far as possible. The question of a moderated freight on which the existence of the petroleum trade hangs has been satisfactorily solved in the Southwest German trade.

Russian Oil and Austrian Refineries.

The competition between Russian and American petroleum in Europe is fairly begun. The diminished stocks on hand, which have continued to remain at a very low point for nearly a year, prove clearly that the importers of American refined are in no immediate fear of a failure in the supply of the people's illuminant. Russia has demonstrated to the world that she possesses abundant resources in the line of immense natural reservoirs of cheap crude. She has not been able to drive our product out of European ports, mainly for two reasons: her lack of cheap transportation facilities, and the inferior quality of her refined. But our refiners are well aware that there is a point in the price at which England and Germany will become small consumers of American oil taking the Russian instead. At the present time Austria is the only country that procures her greatest supply of petroleum from Russia at the expense of the United States. For the present year, up to September 9, the exports of refined to Austria amount in round numbers to 2,100,000 gallons, of crude 425,000 gallons. For 1884, up to the same date, she had taken 4,200,000 gallons of refined and 5,650,000 gallons of crude. Austria is encouraging home refining by a heavy duty against the foreign refined article, and the refiners at Fiume and Trieste are receiving the greater part of their supplies of crude from the Caucasus. The Russian refining interests in the ports of the Adriatic are thus clearly set forth in a recent issue of the *London Grocer:* "As a proof of the fact that Russian petroleum is steadily gaining ground in Austria, it is stated that a refinery erected at Fiume for dealing with the Russian crude oil last year made a net profit of 251,485 florins on a capital of 1,500,000 florins, the profit being equivalent therefore to about 16¾ per cent. on the capital. The statement is the more interesting, as it represents to some extent the development of a competition not merely between Russia and the United States, but between Russia and Austria-Hungary. The American product has been carried mainly in Bremen sailing ships, whereas the Russian article is carried by Austrian and Italian vessels. The Hungarian government has encouraged the Russian trade by erecting special petroleum docks at Fiume, and other works for facilitating the trade are in progress. Vienna and Buda-Pesth capitalists have been induced to erect refineries in the last named center also. The Buda-Pesth Hungarian Petroleum Industry Company is already at work, and other undertakings of the kind are projected. Freedom from taxes for ten years and special tariff reductions on the railways have contributed to promote the industry. The duty on Russian crude petroleum being only 1 fl. 20 kr. per 100 kilos, while the duty on refined petroleum is 10 fl. (gold) per 100 kilos, the development of refining in Hungary has been further stimulated by the fiscal conditions. It is worthy of note also that the German tariff legislation of 1879 has assisted the development of a competition which threatens to damage seriously an important branch of German trade. Prior to 1879 crude and refined petroleum were admitted free into Germany, but since that year they have been alike subjected to a duty of 6s. per 100 kilos—the Austro-Hungarian duty on the crude Russian petroleum being, it will be observed, considerably less than half this rate."

On the other hand, the very fact of Austria inclining to commercial alliance with Russia, combines to assist the reception of our product in Germany. The Germans object to a policy that will build up the seaports of the Adriatic, at the cost of driving American petroleum from the harbors of the North Sea.

Gas For Cincinnati.

The age of bronze and the age of iron have passed; with the age of steam and the age of coal, there has come the age of steel and of gas. Even the greatest deposits of coal can be exhausted, and the demands of miners make the cost of coal a matter of such uncertainty that manufacturers will avoid its use if they can. But gas lifts itself from the earth, and the scientific theory that its supply is constantly renewed in nature's vast laboratory within the earth seems to receive new confirmation every month. At many points far distant from each other, in Pennsylvania and in Kentucky as well as in other States, burning wells have been ablaze for many years with no perceptible diminution in their volume. At other points, where great numbers of wells have been opened within so narrow a tract that they may be supposed to tap the same sources of supply, the flow of gas in the older wells has rapidly decreased, but this is just the result which the later borings might be expected to produce. The fact that at some points the same springs have continued in full blaze for many years, like the burning spring described by Washington in his report of the survey of Virginia, which is said to have lost nothing in its flow of gas for a century and a half, goes far to sustain the claim of scientific persons that the process of manufacture and renewal is going on continually, and will furnish inexhaustible supplies.

The utilization of gas at Pittsburgh has revolutionized many things already, and threatens to revolutionize many more. The rapid substitution of gas for coal as fuel in nearly all the great manufacturing establishments of that region is stronger testimony as to the superiority of the new supply than any assertion of individuals. But the manufacturers who have used it claim that they would use the gas at any reasonable cost in preference to coal if laid down at the furnace free of all cost. For the gas is pure and clean; it makes no cinders which are costly to remove; it requires far less labor in handling; it is free from impurities and of unvarying qualities, so that a far better quality of product can be secured, and it does not burn out or destroy the furnaces in which it is used. These claims are made by those who have had the most experience in the use of the new fuel, and they consider these advantages so great that they believe all the iron and steel manufacturers of the great central region, and all the glass manufacturers of the country, must go to Pittsburgh, unless other supplies of gas can be obtained elsewhere.

The Cincinnati manufacturers, at all events, appear to be convinced that manufacturing in that region cannot be expected to thrive much longer unless they can compete with Pittsburgh in respect to fuel. Hence a project is seriously entertained to bring a supply of gas from the Tug Fork region, on the border between Kentucky and Virginia, 130 miles, at a cost variously estimated from $2,250,000 to $3,500,000, to supply the works at Ironton, Portsmouth, Catletsburgh, Ashland, and Cincinnati. It is claimed that the two great gas wells which have been opened within a few years in the Kentucky region are the largest producers of natural gas yet discovered. The pressure of gas at the burning well has been estimated by scientific investigators at 400 to 700 pounds to the square inch, and it has been pouring out unused for years a quantity of gas equal to the daily consumption of 40,000 bushels of coal. It is believed that all practical difficulties in the transportation of this fuel so great a distance have been solved already in the supply of the Pittsburgh region. There seems to be reason to suppose that the completion of this great work will not long be delayed.—*New York Tribune.*

THE PETROLEUM AGE,

DEVOTED TO THE

INTERESTS OF THE PETROLEUM TRADE.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR,
BRADFORD, PA.

W. C. ARMOR, Manager.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid).....$3.00 per Year, in Advance
Subscription Price (Postpaid).....$1.75 per 6 months in Advance
Foreign Subscription.....$3.50 per Year in Advance
Single Numbers.....30 Cents
The Bradford office of the AGE is in the Producers' Exchange Building.

THE PRODUCING REGION.

ALLEGANY FIELD.

Of the 44 new rigs and 54 drilling wells in the Allegany district on the last day of September, two-fifths of the whole number were located in the Clarksville district. Outside of this section the new work is found on old territory and within the limits of the defined field. From lots 20 and 28, Clarksville, an effort is being made to open up a streak of oil which shall have its northeastern terminus at the Nile wells on lot 48, Wirt. The Barton & Ackerly well, on the Bradford farm, lot 5, Clarksville, is about one mile in advance of developments, and of course demonstrates the existence of ten-barrel territory that far toward the northeastern terminus. The Plummer dry hole on the Eisenhour, on lot 2 , and that of the Coast Oil Co. on the Connselman farm, lot 21, are one hundred rods northwest of gas wells on lot 20, and consequently afford that space as the extreme width of a streak which may pass some distance toward the Nile black oil wells. The Barton & Ackerly well on lot 63, Wirt, was mystified on the first, and it has not since been demonstrated to the producers who are looking for land in that direction, that it contains any oil. Its location is much against its success in the way of a crude display. The Plummer test showed some oil, but after being torpedoed was abandoned. Test wells going down on the southern part of lot 14 will help define the width of the streak or pool about the well on lot 5. The black oil wells are near the Seven-day Baptist town of Nile and have never shown a settled production above five barrels a day per well. Operations at the northeastern end of the light South Alma streak were unsuccessful during September.

The Shirley & Hochstetter well on lot 108, Alma, and the E. T. Johnson, on lot 62, Willing, came in dry. The Allentown Oil Co. also found a duster on lot 35, Scio. D. A. Newton is sinking a test well on lot 33, southwest of the Wangh & Porter well, on lot 34.

The figures on pipe line runs and production, which tell the story of all drilling, show that the yield of the Allegany field is only being maintained. Already through the valley the footfalls of decay are heard, and the field, which was too closely drilled, is exhibiting traces of an inevitable decline. On the last day of September there were 44 new rigs, 44 old ones, which had been standing for 30 days or longer, and 54 wells drilling, making a total of 142 against 137 the previous month.

THE BRADFORD FIELD.

The old field of Bradford showed a marked increase in the volume of new operations within its borders during September. Nearly twice as many wells were completed as in August, the number being 66. On the last day of September there were 51 new rigs, 28 old ones, and 73 drilling wells, making a total of 152. On the last day of August there were 31 new rigs, 38 old rigs, and 59 drilling wells, aggregating 128. The drill was started at ten of the old rigs which had been standing for 30 days or longer. This increase in new work is not confined to any locality, but is quite evenly distributed over the field. The rich part of the Bingham lands, near Simpson, which have been controlled in the main by the large companies, are pretty well drilled over. The Associated Producers have some territory which is undrilled, but the campaign of 1885 has made a material reduction in the new territory at the front.

P. T. & W. C. Kennedy found a dry hole on warrant 3089, in an attempt to enlarge the Kinzua pool to the southwest. Since the 1st of October Bolen & Co. have completed a well on the William Mack land, warrant 3908, which is likely to open a new second sand pool. This new well is on a branch of Marilla Brook above the reservoir from which Bradford sometimes gets its supply of water. Considerable gas was found in the top of the sand and the cable showed 800 feet of oil when the first bit was run. The gas, however, may have blown the oil up the rope. Our scout reports the second sand at this well to have a thickness of 12 feet, a rather thin layer to afford large producers. The Northwestern Oil Co. finished a well a mile southwest of this one several years ago which pumped 750 barrels of oil, after which the salt water came in so strong that the oil was drowned out and the well was abandoned.

The shooting of old wells is still kept up in the Bradford field, and the torpedo men have been busy all through the month of September. Through heavy and excessive shooting Bradford may hold its production during the months of warm and fair weather, but the coming and going of the cold wave will be accompanied by a decline.

WARREN AND FOREST.

The Middle Field furnished but little of importance during the month of September. Active operations are confined to the Clarendon, Tiona development, and the new field northeast of Balltown. The light territory in the immediate vicinity of the borough of Warren is neglected for the present, and few wells of a thoroughly wild-cat nature are now under way. In the town of Glade, on the Irvine farm and adjacent lands, a number of wells have been drilled, though of small calibre, are profitable investments. At Wardwell Ferry, Benedict & Rockwell are gradually drilling over their large tract on the south side of the Allegheny river. In the same locality Cogswell, Pratt & Co. have finished two fair wells on the island and have a third now drilling. Farther up the river, on warrant 2921, the experiment of Miller & Odell has been tubed and put in producing order while the rig has been moved to another more favorable location to the south east. It is expected to flow one or two barrels a day. Duffield has a well drilling on the southwest corner of the same warrant.

Two months ago the most careless observer saw that the dry holes and small wells which had been completed at Kinzua village, still left a chance for a development similar in form and getting its oil from the same level as the Wardwell pool. At that time there remained an opening for a streak or narrow belt in a northeasterly and southwesterly direction from several wells on the flats which had started above 100 barrels per day at their best. The well drilled by Hertzell & Nesmith on the island at the southwest has demonstrated that the streak does not run in that direction, and it now remains for the

Anchor Oil Co. to find its limits at the east and northeast on the Morrison lands. The Anchor Oil Co.'s No. 2, on the Morrison lands, started at 20 barrels per hour and was doing about fifty barrels per day on the first of the month. Borchert & Smith completed a dry hole on a direct line between the Rollins farm gusher and the Anchor No. 2. The Anchor Oil Co.'s No 3, on the Morrison, was drilled in the sand soon after the first of the month, and when five days old was producing 200 barrels per day. Their No. 4, one location northeast of this well, is drilling. On the 6th inst. the five best wells in the field were producing 400 barrels, and one of them was doing over 200 of this amount. The territory is irregular and uncertain and at present predictions on the northeastern end of the field cannot be made with any feeling of correctness.

In the Tiona region, two small wells recently completed on lot 284 mark a considerable extension of small territory to the present area. Horton, Crary & Co., on lot 244, drilled a dry hole which helps define the eastern edge of the annex. On the east of Tiona E. O. Emerson has started a second well on lot 111, and the McKinneys are steadily perforating the rock on lots 82, 103, 104, 110 and 165. Wesley Chambers has secured the cleared field west of Tiona village, and has several wells started.

About Clarendon drilling wells have been somewhat delayed by the difficulty in procuring new casing. Dr. Heath has drilled a second dry hole on lot 576. The region to the southwest of this field affords a few inviting locations for the prospector anxious to discover fresh deposits of the Clarendon sand rock. The Warren Heat and Light Co. completed an immense gas well on lot 213, near Ludlow, September 17, at a depth of 1,530 feet. The flow of gas was so strong that the tools could not be lowered in the hole. Horton, Crary & Co. have drilled a fair gasser near the southwest corner of lot 289, east of Sheffield.

The new development northeast of Balltown is attracting a little attention. The wells struck average about 20 barrels a day. N. F Clark has nearly all the territory of value on 3195. Experimental wells are under way, on the south, on warrants 4791 and 4823; on the northeast, on lots 738, 740 and 754, in Cherry Grove township. Captain Haight's third well on warrant 3198, is a failure. Southwest of the Balltown field, James Welch is drilling another wild-cat well, on the Schooley tract, warrant 5214.

In the Cooper district operations are becoming more active. Shank & Stewart, Stewart & Emery, and the McCalmont Oil Co., are running four or five strings of tools.

There were 72 productive wells and ten dry holes completed in the Middle Field during September. The new production is estimated at 611 barrels. This is a decrease of 15 wells and 97 barrels in the new production as compared with the preceding month. On the 30th of September this field showed 80 new rigs, 11 old rigs and 83 drilling wells. August 31st there were 62 new rigs, 8 old rigs and 73 drilling wells in Warren and Forest counties.

THE LOWER COUNTRY.

There is considerable local interest taken in the developments about Titusville and in the old counties of Venango and Crawford. Along the D. A. V. & P. R. R., at Grand Valley, Kepler, Wood Bros. and W. W. Hague are pushing operations in a quiet manner. On the Spring Creek road Milton Stewart completed another well in September. Over at Pit Hole, on the Lamb farm, two rigs were building, and there is some work under way on the different properties along Oil Creek. Goettel & Co.'s test on the Haney farm at Ten Mile Bottom was dry in the deep sand where the Speechley wells get their gas. At a depth of 1,905 feet shells about 22 feet in thickness were found, but the rock was barren of gas as well as oil. The well will be drilled deeper in search of the Bradford sand. On the Webb farm on Tar Kill Run, Taylor & Torrey have a well boarded up which they are playing for a mystery. It is located about two miles southwest of the large gas wells. They will drill two more wells before disclosing the story of the rocks in this locality to the public. There was a mild boom in Red Valley, or the territory south of Freedom, in Rockland, during September. Dale Bros. completed a well on the Jolly farm, northwest of their original well on the Batten farm, which pumped 100 barrels per day for some time after it was finished. Johnson & Co.'s well on the J. W. Campbell farm, northeast of the Pioneer well, came in dry. The monthly report shows ten rigs and drilling wells for this new section, which has gained some prominence since the first well was completed sixty days ago. About Emlenton, on either side of the river, operations are fairly active.

The Cogley oil district surpassed the expectations of the trade by the volume of work under way within its borders at the close of September. During the past sixty days there has been a mad rush from the pioneer wells at the northeast, in a southwesterly direction. The territory proved uniformly prolific for a long distance southwest of the developments on the first farms, and this gave operators confidence to go ahead on what they considered safe lines. As a natural result a great many rigs have been built near and beyond the pike on the assumption that the territory would continue uniformly good in advance of that tested by the drill. The Nicholson & Kepler well, on the southwestern corner of the Scheffler farm, widened out the streak at a point nearly west of Fern City, but operations further to the southwest demonstrate that the belt will not be widened all the way to the southern limit of the field. The Nicholson & Kepler, if allowed to produce at its best, is about a 30-barrel pumper. Whitehill & Co 's well on the Buzza farm, southwest and in range with this strike, is a small producer. The Mong & Jenerette well on the Smith farm, along the western side of the streak which crosses the pike, came in dry, and Cutler & Co.'s venture on the Shiveley farm is reported a failure. The wells completed on the Baum farm by Berlin & Co., Thayer and others, pump more or less salt water and are not rated above producers of the 15-barrel order. The Daley well on the Clark farm on the eastern edge of the streak at the southwestern end, pumps some oil and a large percentage of salt water.

The territory at the southwestern end of the Cogley development is of a lighter calibre than that at the north. It is also quite likely to be streaked and bothered with salt water.

During September 65 wells were completed having on the last day of the month a new production of 2,263 barrels. Of the whole number of wells completed, one came in dry.

Butler county, through its "midnight mystery" on Rough Run, overshadowed all other sections in its influence on speculative values for a brief period during September. The Leidecker well on the Helmbold heirs farm on Rough Run, about three miles southeast of Hermann station, and situated nearly due east of the Thorn Creek pool, became conspicuous for a short time through the prominence of the parties who were interested in manipulating it as a mystery. Oil of light gravity was

found in the second or upper sand, and this furnished a pretext for putting out guards and inflicting a disturbing element on the speculative trade. Deeper drilling demonstrated that the well was of no more importance than any random test well having a good location in any part of the field, as the "midnight mystery" was barren of oil at the level where the third and fourth sands were found. Thomas Phillips has the wide stretch of territory in front of the Thorn Creek development all to himself. He is now making progressive steps in an easterly direction from the Thorn Creek pool, and then following up sand rock indications on north and south lines. The well on the Byerly farm, a mile and a quarter southwest of Hermann's station had a showing of oil and a good pebble sand. The owners are conducting their tests on a scientific basis, and if famous Thorn Creek has any sister pools lying to the eastward Phillips Bros. are likely to introduce them to the trade.

Before Thorn Creek was discovered Phillips Bros. drilled a test well on the Risch farm and found a showing of oil. This well is located a mile and a half northwest of the Byerly farm venture. On the first of the month they had a rig up and were ready to drill on the Barr farm, which would be on the gap between these wells on the Byerly and Risch farms. They found 51 feet of sand at the Byerly well, and of this 34 feet occurred without a break. At the Risch farm well the formation had thinned out and the pebble at this well was only 22 feet in thickness. A mile and a half south, a dry hole has been drilled, on the W. Staley farm, and between the Byerly and the Staley wells Phillips Bros. are drilling two wells, one of which is located on the James B. Caldwell farm, and the other on the T. Mechlin farm. These new tests, with others which have been sunk, will test the country between Thorn Creek and Hermann's Station for white sand pools. Thorn Creek's production has not varied much in the last thirty days, as the average daily pipe runs show.

The Centennial Oil Co.'s or Westerman & Co.'s well on the widow Ort farm, which started above 170 barrels, has good staying qualities, and has given an impetus to new operations in its immediate vicinity. When the monthly count was made none of the new wells in the immediate vicinity of this well had been completed. Jas. Redd & Co.'s failure, on the John Rogers farm, about three miles south of the Centennial well found 12 feet of fourth sand at a depth of 1,700 feet.

All chances of extending the Martinsburg territory to the westward were cut off by a row of dry holes drilled on a north and south line squarely in advance of the large pumpers on the Cannon and Daubenspeck farms. In the detailed list of wells finished there will be found five dry holes credited to the Martinsburg district. There is still a narrow opening to the north and northwest for wells in the boulder territory. Manifold, Conley & Butler found oil in the upper sands at one of their wells which would burn in an ordinary lamp without refining. The oil was of light gravity and transparent to such an extent that one could read through a vial filled with it.

THE Bridgewater Gas Company, of which corporation Capt. J. J. Vandergrift is president, announces that it has a constant and inexhaustible supply of natural gas, which it will furnish manufacturers in the boroughs of Beaver Falls, New Brighton, Beaver, Bridgewater, Phillipsburgh, Rochester, Fallston and others at a very low cost.

FOUR wells have been drilled for gas near Ross' Mill, in Chautauqua, county, three of which are dry.

The Acme Oil Company, of Titusville, Pa.

Petroleum has been refined at Titusville since the early days of its discovery, and the refining interests are now and have always been largely represented there. The place possesses many natural advantages favorable for refiners, and this, with the enterprise of its citizens, accounts for the volume of business done there in refining oil.

Up to the year 1871 the distilling of petroleum had been done in stills of small size; but about that time several refineries were projected and built at Titusville which had stills of colossal proportions compared with any that had previously been erected. Mr. J .D. Archbold, afterwards President of the Acme Oil Company, was part owner in one of these refineries, which was called the Acme Oil Works. Mr. Archbold and his partners made a new departure in the refining of petroleum by building a still at these works which had a capacity of 3,000 barrels. The remainder of the works were erected on a correspondingly large scale. In 1875 the Acme Oil Company of Pennsylvania was incorporated and duly organized by J. D. Archbold and others. The company immediately commenced to build large works and to increase its business generally, so that at present it has a refining capacity of 2,500 barrels per day.

The following are the officers of the Acme Oil Company of Pennsylvania:

President—J. D. Archbold.
Vice-President—F. Q. Barstow.
Secretary—C. W. Archbold.
Treasurer—Frank Loomis.

This company has made a specialty of supplying the domestic trade of this country, and its trade has assumed mammoth proportions, which is satisfactory evidence of the sterling quaility of its goods and the efficient methods displayed in placing them in the market. The entire production of their Titusville refineries, with a much larger amount manufactured for the company at Olean and Buffalo, is used in supplying the domestic trade of the Eastern and Middle States.

The General Manager of the company, Dr. H. Y. Pickering, has full direction of the works and the manufacture of the oil.

Mr. C. W. Coburn is the manager of the sales department, and to him is entrusted the entire business of merchandizing the oil.

This company manufactures the celebrated "Crown Acme" brand of oil, which has already made itself a deservedly high reputation and is meeting with large and constantly increasing sale. As a reliable, safe, uniform and brilliant illuminator it is not surpassed, if at all equalled.

The Acme Oil Company, through its sales department, also markets the celebrated lubricating oils manufactured by the Eclipse Lubricating Oil Company, Franklin, Pa., the largest and most complete strictly lubricating oil refinery in the world. It would be difficult to call for any product of petroleum that the Acme Oil Company does not manufacture or supply to its trade, including refined oils of all grades—naphthas, crude, redistilled and deodorized, gasolines and lubricating oils, including cylinder oils of the following brands: "Capital," "Omega," "Model," "Eclipse," "Valve" and "Matchless;" the world-renowned "Eldorado" engine oil, wool, spindle, miners', sewing-machine, rubbing, harness, screw-cutting, torch, neutral, signal, paraffine and black oils; white paraffine wax, opaline, hoof ointment and mica axle grease.

SUBSCRIBE for the AGE. Only 25 cents a month.

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal Continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE.	Sept. 26, 1885. Barrels.	Aug. 22,1885. Barrels.
Seven Continental Ports	1,451,930	1,481,118
London	210,886	198,523
Trieste	27,523	------
Total Stocks afloat and ashore	1,690,339	1,679,641
Increase in stocks since August 22	10,698	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1884. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS SEPTEMBER 26, 1885.

PORTS.	Stocks week ending Septem'r 26		Stocks afloat week ending Septem'r 26.		Loading. Week ending Septm'r 26		Grand total stocks afloat and loading.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	211,779	103,540	31,997	54,346	20,500	53,000	264,276	210,886	91,379	111,804	116,402	113,490
Trieste	47,392	20,078	29,439	7,445	--------	--------	76,831	27,523	29,374	22,526	21,836	15,139
Bremen	762,417	446,273	--------	38,891	35,000	23,500	797,417	508,164	159,404	163,464	218,367	165,261
Hamburg	197,238	146,957	91,241	121,157	107,400	68,900	395,879	337,014	306,314	262,576	283,790	296,461
Antwerp	142,683	117,653	49,639	64,75[illegible]	98,500	43,500	290,822	225,904	188,920	19[illegible],418	211,350	182,725
Rotterdam	53,587	64,612	5,711	3[illegible],369	28,000	8,200	97,298	107,18[illegible]	[illegible]9,639	101,316	53,324	105,701
Amsterdam	35,849	42,791	9,502	8,403	[illegible]0,000	18,500	75,351	69,694	46,202	69,553	51,289	54,135
Stettin	89,846	153,878	26,223	16,337	13,500	--------	129,569	170,215	129,156	189,396	76,957	93,930
Danzig	33,043	33,258	7,240	-------	--------	--------	40,283	33,258	40,307	41,046	15,359	17,054
Total	1,314,663	1,005,422	189,556	283,908	322,400	162,600	1,826,619	1,451,930	969,942	1,020,771	910,436	915,[illegible]67

	1882.	1883.	1884.	1885.
Total stocks Continental Ports	1,495,367	1,673,915	1,314,663	1,005,422
Total afloat, " "	271,543	23[illegible],152	189,[illegible]56	2[illegible]3,908
Total loading	211,200	243,100	322,400	162,600
Total	1,978,110	2,155,167	1,826,619	1,451,930
Afloat and loading for direct Continental Ports	--------	--------	63,000	2,300
" " " Baltic Sea, exclusive Stettin and Danzig	6,300	4[illegible],800	16,000	29,700
" " " Total Continental Ports	1,984,410	2,196,967	1,905,619	1,483,930
" " " Total London	398,599	4[illegible]5,020	264,276	210,886
" " " English harbors, exclusive London	114,000	186,900	89,200	99,500
Grand total	2,497,009	2,858,887	2,259,095	1,794,316

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, AUGUST, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., SEPT. 10, 1885.

CUSTOMS DISTRICTS.	MINER'L, CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
Boston and Charlestown, Mass.	--------	--------	--------	--------	1,149,207	104,290	6,873	2,197	--------	--------	1,156,080	106,487
New York, N. Y.	4,864,169	371,570	586,410	48,386	28,061,747	2,470,[illegible]92	1,034,099	197,875	218,106	[illegible]6,194	34,764,531	3,104,917
Philadelphia, Pa.	2,999,205	218,850	378,741	25,202	11,420,342	979,941	18,305	2,72[illegible]	--------	--------	14,816,594	1,226,714
Baltimore, Md.	100	8	--------	--------	1,607,883	130,168	514	71	159,3[illegible]6	7,661	1,767,803	137,908
San Francisco, Cal.	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
All other districts	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Total for August, 1885	7,863,474	590,428	965,151	73,588	42,239,180	3,685,291	1,059,791	202,864	377,412	23,855	52,505,008	4,576,026
Total for August, 1884	7,944,873	579,667	1,594,067	129,416	35,313,512	3,120,112	1,008,807	229,093	455,952	26,202	45[illegible]317,211	4,084,490
Total for 8 months ended August 31,1885	50,086,793	3,652,498	8,917,976	689,942	291,736,026	25,352,932	8,767,662	1,745,749	4,484,634	260,037	363,993,091	31,701,158
Total for 8 months ended August 31,1884	44,940,850	3,571,954	6,443,592	534,925	263,467,153	24,515,139	7,543,264	1,557,472	3,583,608	235,042	325,978,467	30,414,53[illegible]

CRUDE QUOTATIONS FOR SEPTEMBER, 1885.

Day of Month and week.		BRADFORD.				OIL CITY,				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
T	1	101¾	103	101¼	102⅝	101¾	103	101¼	102¾	101⅞	103	101¼	102¾	101¾	102⅞	101⅛	102⅞
W	2	102¾	102¾	99⅞	100¼	102½	102½	100	100⅜	102¾	102⅞	99⅞	100½	102½	102½	100	100⅜
T	3	100¼	102½	100⅛	102½	100¼	102⅝	100¼	102⅜	100¼	102⅝	100	102½	100½	102½	100⅜	102½
F	4	102¼	102⅞	101⅞	102¼	102⅜	102⅞	102	102⅜	102¼	102⅞	102	102⅜	102¼	102¾	102¼	102⅜
S	5	102¼	102⅜	100¾	101	102⅛	102¼	100¾	101	102⅜	102½	100¾	101	102¼	102¼	100⅞	101
M	7	100¾	101½	100¾	101	100¾	101½	100¾	101	101	101⅝	100⅞	101⅛	101	101½	100⅞	101
T	8	101⅝	102⅜	101⅛	101⅝	101⅝	102⅝	101	101¾	101⅛	102½	101⅛	101¾	101⅝	102½	101⅛	101⅝
W	9	10[illegible]¾	101¾	100½	100¾	101½	101¾	101½	100¾	101⅝	10[illegible]⅞	100⅝	100⅞	101⅝	101¾	100½	100¾
T	10	100¼	100½	98¾	100⅛	100¼	100½	98¾	100⅛	10[illegible]⅜	100½	98¾	100⅛	10[illegible]⅜	100⅜	98⅞	100⅛
F	11	100½	101¼	100¼	100⅞	100¼	101⅜	100¼	101	10[illegible]⅜	101⅜	100¼	101	100¼	101¼	10[illegible]⅛	100⅞
S	12	101⅝	101¾	101	101¼	101½	101⅞	101	101¼	1[illegible]1½	101¾	101	101¼	101⅝	101¾	101	101¼
M	14	101⅜	101⅜	100	100¼	101¼	101¼	100	100¼	101⅜	101⅜	100	100⅜	101⅜	101⅜	100	100⅜
T	15	100⅛	100⅜	99	99⅜	100	100½	99	99¼	100⅛	100½	99	99⅜	100¼	100½	99⅛	99⅜
W	16	99	100⅜	99	100⅛	98½	100½	98½	100⅛	99	100½	98⅞	100¼	98⅞	100½	9[illegible]¾	100⅛
T	17	100¼	100⅞	99⅞	99⅞	100½	100⅞	99⅞	99⅞	100¼	1[illegible]1	100	100	100⅜	100⅞	99⅞	99⅞
F	18	99⅞	100⅛	99⅝	99⅝	99⅝	100¼	99½	99½	99¾	100¼	99⅝	99⅝	99¾	100⅛	99½	99⅛
S	19	99½	99⅞	99⅛	99⅞	99⅝	99⅞	99⅜	99¾	99⅝	100	99⅛	99¾	99½	99⅞	99¼	99¾
M	21	99¾	100⅝	99⅝	100¼	99¾	1[illegible]0⅝	99⅝	100⅜	99¾	100¾	99⅝	100½	99¾	100⅝	99⅝	100⅜
T	22	100½	100¾	99½	100	100¾	100¾	99⅜	99⅞	100⅜	100⅞	99⅝	100	100⅝	100⅝	99⅝	99⅞
W	23	100¼	101	100⅛	100¾	100⅜	100⅞	100⅛	100¾	100	101	100	100⅞	100⅛	100⅞	100⅛	100¾
T	24	100⅞	101⅛	100⅜	100½	101	101⅜	100¼	100⅜	101	101¼	100¼	100⅝	101	101⅛	100⅜	100⅜
F	25	100½	100⅝	100	100¼	100⅜	100⅝	99⅞	99⅞	100⅜	100¾	100	100	100⅜	100¾	100⅛	100⅛
S	26	100	100½	100	100¼	100	100½	100	100⅛	100	100½	100	100¼	100⅛	100½	100⅛	100¼
M	28	100⅛	101	100	101	100	101	99⅞	101	100¼	101¼	100	101⅛	100	101⅛	100	101
T	29	101⅛	102⅝	101⅝	101⅛	100¼	102¾	100⅝	1[illegible]1¼	101¼	102¾	100¾	101⅞	101⅛	102⅝	100¾	101⅜
W	30	101⅜	101¾	100⅞	100⅞	101½	101¾	101	101	101½	101⅞	101	101⅛	101½	101¾	101	101

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.	AUGUST, 1885. Wells.	Prod'n.	Dry.
Scio	7	34	1	3	25	0
Alma	18	89	1	6	27	0
Wirt	8	49	0	4	18	1
Bolivar	9	58	0	8	47	0
Clarksville	16	108	4	10	76	1
Genesee	1	8	0	2	14	0
Miscellaneous	1	0	1	0	0	0
Total	60	346	7	33	207	2
Total August	33	2 7	2			
Increase	27	139	5			

BRADFORD FIELD.

Division of Field.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.	AUGUST, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	21	180	1	11	90	0
Kendall Creek	1	5	0	3	21	0
Foster Brook	11	86	0	4	31	0
Knapp's Creek	3	19	0	0	0	0
Four Mile	2	14	0	2	10	0
Indian & Meeks Creeks	13	99	0	5	35	0
Cole Creek	11	160	0	10	170	0
Kinzua	5	34	2	0	0	0
Total	67	597	3	35	357	0
Total August	35	357	0			
Increase	32	240	3			

WARREN AND FOREST.

District.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.	AUGUST, 1885. Wells.	Prod'n.	Dry.
Glade	18	126	3	21	189	1
Clarendon	19	103	1	25	145	1
Tiona	30	187	1	36	217	0
Cooper	2	40	0	3	10	2
Bulltown	10	155	2	7	141	1
Miscellaneous	3	0	3	5	6	4
Total	82	611	10	97	708	9
Total August	97	708	9			
Difference	15	97	1			

LOWER COUNTRY.

District.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.	AUGUST, 1885. Wells.	Prod'n.	Dry.
Venango	51	366	11	31	145	8
Clarion	65	2263	2	52	1611	4
Butler and Armstrong	32	495	10	38	285	17
Total	148	3124	23	121	2041	29
Total August	121	2041	29			
Difference	27	1083	6			

GRAND SUMMARY.

District.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.	AUGUST, 1885. Wells.	Prod'n.	Dry.
Allegany	60	346	7	33	207	2
Bradford	67	597	3	35	357	0
Warren and Forest	82	611	10	97	708	9
Lower Field	148	3124	23	121	2041	29
Total	357	4678	43	286	3313	40
Total August	286	3313	40			
Inerease	71	1365	3			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	AUGUST 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	3	5	5	13	4	6	7	17
Alma	7	12	15	34	9	12	17	38
Wirt	8	5	10	23	4	4	10	18
Bolivar	3	4	7	14	2	5	9	16
Genesee	1	15	0	16	16	3	13	32
Clarksville	22	3	17	42	0	15	1	16
Total	44	44	54	142	35	45	57	137
Total August 31	35	45	57	137				
Difference	9	1	3	5				

BRADFORD FIELD.

Division of Field.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	AUGUST 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches	19	15	27	61	11	19	17	47
Kendall Creek	3	3	5	11	2	6	3	11
Knapp's Creek	1	0	3	4	0	0	0	0
Foster Brook	7	1	9	17	9	1	7	17
Four Mile	2	2	4	8	0	3	2	5
Indian Creek	8	4	7	19	3	4	11	18
Cole Creek	8	3	14	25	4	5	14	23
Kinzua	3	0	4	7	2	0	5	7
Miscellaneous	2	0	1	3	0	0	0	0
Total	51	28	73	152	31	38	59	128
Total August 31	31	38	59	128				
Differen e	20	10	14	24				

WARREN AND FOREST.

Divi ion of Field.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	AUGUST 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	15	3	11	29	21	2	9	32
Clarendon	24	7	23	54	15	4	20	39
Tiona	31	1	31	63	19	1	28	48
Cooper	3	0	5	8	1	0	3	4
Bulltown	6	0	7	13	3	0	7	10
Miscellaneous	1	0	6	7	3	1	6	10
Total	80	11	83	174	62	8	73	143
Total August 31	62	8	73	143				
Increase	18	3	10	31				

LOWER COUNTRY.

Division of Field.	SEPTEMBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	AUGUST 31, 188 New Rigs.	Old Rigs.	Drilling.	Total.
Venango	49	2	41	92	28	10	26	64
Clarion	71	4	98	173	47	1	54	102
Butler & Armstrong	19	10	50	79	24	2	45	71
Total	139	16	189	344	99	13	125	237
Total August 31	99	13	125	237				
Increase	40	3	64	107				

GRAND SUMMARY.

Field.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	AUGUST 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	44	44	54	142	35	45	57	137
Bradford	51	28	73	152	31	38	59	128
Warren and Forest	80	11	83	174	62	8	73	143
Low r Country	139	16	189	344	99	13	125	237
Total Sept. 30	314	99	396	812	227	104	314	645
Total Aug. 31	227	104	314	645				
Difference	87	5	85	167				

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virginia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11,894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441
August	73,858	23,82
September	68,110	2,270

September Production Report.

Reports of the stocks on hand at 6,058 Bradford wells, showed an average increase of twelve-hundredths barrels to the well during September:

Time.	No. Wells.	Gross Stocks.	Average per well.
October 1, 1885	6,058	313,194	51.70
September 1, 1885	6,045	311,773	51.58
Increase	13	1,421	.12

The number of wells in the Bradford field connected with the pipe lines on the 1st of October is estimated at 13,579. Estimating the entire Bradford region on the basis of twelve-hundredths barrels increase, the total increase in stocks at wells during September was 1,629 barrels, a daily average of 54 barrels. Adding the increase in stocks to the total runs as reported by the National Transit and Tidewater pipe lines. Bradford's daily average production for September is as follows:

	Barrels.
Average Daily Pipe Line Runs	30,151
Average Daily Increase of Stocks at Wells	54
Bradford's September Production, estimated	30,205
" August " "	29,858
Average Daily Increase	347

These figures show an increase of 347 barrels a day in the production of the Bradford field during September.

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
October 1, 1885	1,146	45,530	39.7
September 1, 1885	1,141	40,564	35.6
Decrease	5	4,966	4.1

The wells from which reports were received had an average increase of four and one-tenth barrels to the well during September. With 3,943 wells in the field on the 1st of October, these figures give a total increase for the field of 16,166 barrels, or an average increase of 539 barrels per diem. Adding this amount to the average daily pipe line runs, 6,647, the total, 7,186, will represent Allegany's production during September. The August average was 7,065 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the 1st of each month, with their averages, are contained in the following statement:

Field.	No. Wells October 1.	No. Wells Sept. 1.	Average per well October 1.	Average per well Sept. 1.
Clarendon and Tiona	177	167	33	37
Cherry Grove	22	22	46	55
Cooper District	143	145	59	64
Thorn Creek	63	63	150	126
Lower Country	89	85	54	54
Miscellaneous	139	139	99	102

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for September and August is as follows:

Field.	September. Barrels.	August. Barrels.
Bradford	30,205	29,858
Allegany	7,186	7,065
Outside Runs	20,404	18,608
Total	57,795	55,531

The above figures show an increase in the production of 2,264 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points in the region.

The oil run by the Pittsburgh lines during September averaged 865 barrels per day. This is not included in the above estimates, as their runs for August have not been published, and a comparison between the two months cannot be made.

The following table shows the comparative production for 1883, 1884 and 1885:

	Bradford.		Allegany.		Outside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481	11,607	13,154	18,561	13,573	62,546	65,208
March	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18,330	64,838	67,108
July	34,031	34,587	11,218	12,345	20,870	16,758	66,119	63,640
August	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
November	31,789	35,026	8,642	12,678	23,557	18,433	63,988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16,140	55,529	59,240
February	27,051	32,378	7,196	11,607	19,800	18,561	54,047	62,596
March	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23,067	19,162	57,649	63,452
May	27,231	33,922	7,049	11,547	21,225	19,549	55,505	65,018
June	29,272	33,753	7,463	11,108	21,559	19,977	58,294	64,838
July	30,309	34,031	7,139	11,218	19,273	20,870	56,721	66,119
August	29,858	33,353	7,065	10,384	18,608	22,830	55,531	66,567
September	30,205	32,976	7,186	9,877	20,404	22,514	57,795	65,367

The production of the Bradford field for September is 2,771 barrels a day behind the September output of 1884. Allegany falls short of the September average of last year by 2,691 barrels, and the entire region shows a decrease of 7,572 barrels per diem from the figures furnished by the production report for September, one year ago, and 7,463 barrels a day less than the estimated output of September, 1883.

In the above report no account is taken of the Macksburg field, which had an average production of about 2,270 barrels in September and 2,382 barrels in August.

There was a vast amount of shooting and cleaning out of old wells in all the fields during September.

H. L. TAYLOR, President of the Union Oil Company, is drilling a well for gas on the grounds near his residence on Delaware avenue, Buffalo.

A MODERATE flow of natural gas, at a depth of 604 feet has been found in a test well, being drilled a short distance south of Greensburg, Pa.

THE Hull Gas Company has bought out the Natural Gas Company, of Findlay, Ohio, for $30,000. The plant consists of three gas wells and extensive mains.

MONONGAHELA CITY, Pa., has got the gas fever, and her people believe they are on the belt, and are proceeding to test the matter with the drill.

THE Keystone Gas Company, of Olean, N. Y., has laid a six inch line to the village of Allegany, three miles distant, and the housewives of that town are happy in the use of the gaseous fuel.

THE Plate Glass Works at Tarentum are building a new factory which will be larger than the present big structure. Gas has been particularly beneficial to the glass trade. It is not only cheaper than coal but makes better glass.

THE natural gas companies have created a great demand for pipe and prices have advanced two to four dollars a ton. Pig iron is bringing better figures, and the market is stronger than for a year past. But while the iron and glass trade has been particularly benefitted by the introduction of natural gas, the coal business has suffered loss and prices are lower than ever known before.

SEPTEMBER OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN SEPTEMBER, 1885.

Allegany Field.

Twp.	Owner	Barrels
Scio,	1, Pickering & Smith	8
"	1, Bright & Hochstetter No 6	5
"	1, (Swift farm) Manhattan Oil Co No 8	5
"	2, Coast Oil Co No 36	5
"	2 (Ketchum farm) Riley Allen	5
"	4, Harry Breckenridge	6
"	35, Allentown Oil Co	dry
Alma,	1, Phillips Bros No 17	6
"	3, Triangle Oil Co No 16	5
"	3, (Pike farm) Weete & Co No 1	3
"	4, C W Scofield No 6	10
"	22, (Russell farm) Duke & Norton Oil Co No 51	3
"	19, (Allen farm) Duke & Norton Oil Co No 52	5
"	20, W F Coast	3
"	35, John Bowning No 1	3
"	37, Perrin & Young No 9	6
"	37, " No 10	6
"	85, Associa'd Producers' Co No 2	5
"	85, Shirley & Hochstetter No 2	5
"	86, (F & Co Pur) " No 5	5
"	108, Shirley & Hochstetter No 1	dry
"	116, Thornton & Dobbins No 5	5
"	106, O'Connor & Shanley No 4	8
"	120, McCalmont Oil Co No 7	3
"	140, Willetts, Duke & Rauber No 7	8
Willing,	62, E T Johnson No 2	dry
Genesee,	24, Dusenbury & Wheeler No 3	8
Wirt,	1, Appleb e Bros No 7	10
"	48, Higgins & McQueen No 1	3
"	52, Allegany Gas Co	3
"	52, (Burdick farm) Wilson Bros & Ackerly No 6	10
"	52, Johnson, Lovell & Rumsey No 1	6
"	52, " No 2	6
"	52, E T Johnson No 2	5
"	60, (Alvah Jordan) J H Snow No 1	6
Bolivar,	4, Matson & Thompson No 1	3
"	7, Coast Oil Co No 33	5
"	7, " No 35	5
"	7, W & J Duke No 20	10
"	8, Anderson, Bros & Bryson No 6	5
"	23, Conroy & Johnson	8
"	23, F C Streeter & Co No 8	8
"	57, A J Thompson	8
"	63, Johnson & Northrup No 14	6
Clarksville,	5, (Bradford) Ackerly, Barton & Co No 1	10
"	13, (Congdon) Ackerly, Barton & Co No 2	15
"	(Congdon) M Congdon	5
"	13, (Wixon) Bronson, Sharp & Ackerly No 1	5
"	20, (Ernhout) Ackerly & Samuels No 5	15
"	20, (Ernhout) Ackerly & Samuels No 7	gas
"	21, (Holmes) Ackerly & Samuels No 2	6
"	20, (McDougal) Lord & Whitnall No 1	10
"	20, (McDougal) Mack Oil Co No 1	10
"	20, (Zimmerman) Hogan & Murphy No 1	6
"	21, (Counselman) Coast Oil Co No 1	dry
"	28, (Eisenhour) Plummer, Wood & Co No 1	dry
"	28, (Butts) Coast & Finnegan No 1	6
"	28, (Butts) Love, Penzer & Patterson No 7	10
"	10, Angell Oil Co	10
"	60, (C Jordan) National Transit Co No 58	gas

Wells completed 60
Production 346
Dry 7

Bradford Field.

Dikeman, Whitney & Wheeler No 28		8
Rutherford, J T Jones No 44		10
" "	No 45	10
" "	No 46	10
Moody, A K Darrow		dry
Watson lot, P W Roth No 5		5
Bingham, lot 190, Amin & Co No 62		8
" lot 197, R J Straight No 6		5
Tuna't Coal Lands, Waugh & Porter No 5		5
Taylor, Atlas Oil Co No 14		15
" "	No 15	10
Dent, Emery Oil Co No 25		10
Warrant 2258, Van Vleek & Mitchell No 33		12
Stinson, Asher Brown No 13		8
" Connolly Bros No 1		8
B O Co, Western Oil Co No 1		10
Craft, Archer & Roy No 13		10
Crooker, Jennings & Curtis No 11		8
Blair, J J Carter No 25		10
Quintuple, 286, Jennings & Curtis		8
" —, Camp & Zane No 12		8
Morton, Dan Clark No 3		3
Dunham, Williams & Kilbury No 8		5
Trans Hollow, H M Miles		8
Norton, F W Mitchell		8
E T Co, Utter & Co		8
" O A Childs & Co		10
C B & H, Watson Oil Co No 37		6
" C Wilder No 4		8
" Page, Walker & Co No 2		8
" W W White No 9		8
" R Y Mitchell No 11		8
" J S Patterson No 7		8
" Bird & Lincoln No 12		8
" M Mandeville o6		6
Foster, C C Kerr No 2		8
Van Campen, Bronson & Perrin Bros		8
Stevens, S Rhodes		6
Dodge, Shear Bros No 11		5
Barse, Reeves & Bussell		8
" M Mueller		8
" Hancock Bros		8
Miles Loo, Union Oil Co No 25		10
Hamlin, Forest Oil Co No 34		10
" John Oberlin		8
Weston, J L McKinney & Co No 6		10
Clark, Dusenbury, Wheeler & Co		8
Loop, Manhattan Oil Co No 10		5
" Kinney		10
Ballard L H Ballard		6
Vaughn, Martin & Co No 4		3
Bingham, lot 533, Union Oil Co No 32		25
" 573, "	No 23	10
" 575, "	No 40	10
" 537, "	No 42	20
" 495, "	No 5	20
" 583, Assoc'd Prodrs Co No 53		20
" 592, T J Melvin No 9		10
" 547, C P Bryon No 1		5
" 585, John McKeown No 2		15
" 585, "	No 3	15
" 574, Rose & McLeod		10
" 129, P T & W C Kennedy No 6		7
Warrant 3084, Union Oil Co No 59		15
" 2243, Emery Oil Co No 41		12
" 3084, P T & W C Kennedy No 1		dry
Niles Tract, Chapin & Co No 7		dry

Wells completed 67
Production 597
Dry 3

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village,

Marsh, C P Collins & Co No 4		3
Whitman Island, Hertzell & Nesmith		dry
Rollin, Borchert & Smith No 2		dry
Wm Harris, Wm Fogel & Co No 4		dry
English, Brown & Co		5
" Smith, Bright & Co No 1		6
Swift, "	No 2	3
Morrison Heirs, Anchor Oil Co No 1		10
" "	No 2	50

Warren.

Wardwell, Benedict & Robinson No 22		10
" "	No 23	6
" "	No 24	8
Island, Cogswell & Co No 2		6
2921, (Mead) Miller & Odell No 1		1
Rollin, (Glade) Battis, Harley & Co		3
Mead, " E J Erdman & Co		5
Irvine, " T J Melvin No 7		8
Wm Scott, " Hackett & Shirley No 2		2

Wells completed 18
Production 126
Dry 3

Clarendon.

Lot.		
36, Borchert & Smith No 8		6
35 & 53, Thompson & Collins No 11		6
496, D Beatty & Son No 10		5
496, Wm O'Neil No 3		6
496, P Kratzer No 7		6
465, J Smith & Son No 10		6
464, Lockwood & Parsons No 12		6
499, Munroe & Finnegan, No 5		5
49, D Riddlespergor, No 1		4
499, Patterson & Solliday No 3		5
465, Wm Pagett, No 4		5
77, O F Hoffman, No 3		5
80, D J Thayer No 10		8
558, Goal Bros No 16		5
5 5, J D Beers, No 1		5
557, Dyson & Louden No 9		6
527, F H Rockwell & Co No 16		8
583, "	No 17	6
576, Dr Heath, No 2		dry

Wells completed 19
Production 103
Dry 1

Tiona.

82, J L & J C McKinney No 3		6
82, J & J C McKinney No 4		6
103, (lot 17) "	No 7	7
103, " "	No 8	8
103, " "	No 9	8
103, (lot 15) "	No 16	7
104, "	No 6	6
104, "	No 7	8
165, "	No 11	6
165, "	No 12	6
165, "	No 15	7
104, R R Armor, No 6		6
104, "	No 7	6
109, O'Donnell, Hill & Co No 4		6
108, M J Seymour No 2		5
161, O'Donnel & Tobias No. 8		6
161, (Bean farm) O'Donnell & Hill No 1		5
165, McKelvy, Best & Co No 11		6
200, Wesley Chambers, No 5		6
204, W J Wood & Co No 9		6
205, Jos Neal, No 3		5
205, (Farnsworth) E O Emerson No 11		6
240, (Tidewater) "	No 4	8
241, F W Winger No 13		8
241, L Kraeer & Co No 15		8
244, Horton, Crary & Co No 3		dry
245, Shoelkopf, Horton & Co No 1		8
245, "	No 2	7
284, Watson & Mitchell No 1		5
284, Hackett & Shirley No 1		5

Wells completed 30
Production 187
Dry 1

Cooper District.

408, McCalmont Oil Co No 21		30
407, Shank & Stewart No 7		10

Wells completed 2
Production 40

Balltown.

3195, Proper Reserve Oil Co No 8		15
3195, (Crissman) N F Clark No 3		25
3195, "	No 4	20
3195, Stone, "	No 5	15
3195, Nickel Oil Co No 2		15
3195, "	No 3	15
3198, Haight, Agnew & Co No 3		dry
4821, Balltown Oil Co No 25		dry
4792, Howe Oil Co No 18		20
5215, May, Kelley & Grandin No 36		30

Wells completed 10
Production 155
Dry 2

Miscellaneous.

Deerfield, 264, Gilson & Co	dry
Sheffield, 289, McNair, Horton & Co	gas
McKean, 213, Warren H & L Co	gas

Wells completed 3
Production 0
Dry 3

Lower Country.

Venango.

Farm.	Operator.	Barrels
Gordon, I Reinemann		5
Gormley, Richardson & Hughes		12
McCalmont, S P McCalmont		dry
Young, Octave Oil Co No 16		3
Noble, "	No 6	15
Drake Petroleum Co, G P Kepler No 4		8
Dunderdale, Wood Bros (est)		5
Boyt & Randolph, W W Hague		3
Mackey, McKay & Roberts		3
Grillin, Kulp & Co No 2		3
Gilson, Milton Stewart		5
Windfall, J B Kerr, Milton Stewart (est)		5
Columbia, Columbia Oil Co No 161		15
Stroup, Galbraith & Shepherd		dry
Plummer, Henderson		6
Baker, Bonner, Gibson & Co		10
Crawford, Morgan & Co		dry
David Porter, Goodreh & Salisbury No 1		20
Hetzler, Dale Bros No 1		10
Jolly, "	No 1	75
Campbell, John Johnson		dry
Parson, Warner		20
Lusher, John Lee & Co		dry
Buchanan, Robinson (est)		5
Gates, Fisher Oil Co No 3		10
" "	No 4	5
Morrison, (Salem) Fisher Oil Co No 1		10
McPherson, Oil City Fuel Supply Co		gas
Haney, Goettel, Roess Bros & Co		dry
McCormick, Phinney & Co No 2		6
Diamond, J B Smithman No 3		5
" Darr & Manning No 17		15
" Lutes & Co		8
Mitchell, F W Mitchell No 18		4
Holiday Run, (Moffet farm) Unknown		5
Hatfy, Wm Fleming & Co		dry
Gailey, Kugler & Gailey No 9		5
Wolf, Wolf & Kugler No 6		8

Vicinity Emlenton.

A Middleton, M R Martin	dry
McClintock, Peter Curry	dry
Dr A W Crawford, Macken & Crawford	3

D M Crawford, Wilkins & Messner 10
J Sloan, Bailey & Co 3
Grant, J P Crawford 7
Porterfield, A A Hopkins ..... dry
R yal, Allen & Flynn 7
D M Crawford, Book Br s 6
J M Black, Galbraith & Sherwood 3
McCullough, Graham & Co 5
Wm Agnew, J M Hewett 10
Crawford, Daniels & Co 3

Wells completed 51
Production 366
Dry 11

Clarion.

Cogley Run.

Gibbs, Ashland Oil Co No 7 40
" " No 8 40
Rickenbrode, " No 4 40
Strutman, Roess Bros No 3 10
" " No 4 2
" H C Zeigler No 2 20
Fisher, Cogley Oil Co No 2 30
" " No 3 15
J M Deitrich, " No 1 40
Fisher, J B Smithman No 6 60
" " No 7 6
Berlin, Patterson & Leedom No 6 40
Shorts, P H Judd & Co (est) 10
John Deitrich, Yonkers & De trieh No 3 50
Fern, White & Gifford No 2 10
" " No 3 60
" " No 4 50
Fisher, Staley, McDonald & Co No 2 25
M P Hess, Koch & Gouttel No 4 40
Young, Hale, Moriarty & Co No 3 30
" Young & Stover No 3 25
" McIntyre & Woods No 4 10
" Staley & McDonald No 6 40
" McClellan 10
Fowls, McCalmont Oil Co No 3 50
" " No 4 60
" " No 5 50
" " No 7 40
Ben Hess, J B Smithmna No 3 50
" " No 4 40
" " No 5 40
" " No 6 40
" " No 7 (est) 30
John Deitrick, Kiser & Co No 2 30
" Riddle & Co No 3 30
" " No 4 (est) 50
M P Hess, Urquhart & Lavens No 4 40
" " No 5 40
" " No 6 40
" " No 7 40
Heeter, Heeter Bros No 2 30
" Wolf & Kugler No 2 30
Sam Beals, Beals, Hunter & Co No 2 25
" Fertig Bros (est) 20
" Wesley Chamber No 1 (est) 25
Scheffler, Nicholson & Kepler (est) 40
Heasley, Kelly & Koch 10
Gillingham, Doyle, Gill & Co No 3 40
" " No 4 40
Oscar Black, Hess & Sackett 60
W L Hess, Koch Bros No 2 75
" S P Morrison 60
" W L Hess 30
" " 25
" Chauney Oil Co No 1 75
" " No 3 75
Hess & Sackett, Robert Long No 2 (est) 15
Sowers, Hite & Co No 1 40
John Kinnemuth, Lovell & Ramsey No 1 35
" " No 2 75
" Howe, Kribbs & Maxwell No 1 50
Baum, Berlin & Co No 2 (est) 15
Geo Shirely, Cutler & Co ..... dry
Clark, Daily & Co (est) 10

Wells completed 65
Production 2263
Dry 1

Butler and Armstrong.

Guthrie, Ireland & Hughes 3
Rogers, James Redd & Co ..... dry
" Boyd & Co 3
Nolan, Dale, Larkin & Bruce 10
Renfrew, Ireland & Hughes No 2 (est) 15
Muddy Creek, Fisher Oil Co ..... gas
Bickett, Cochran ..... dry
Marks, Fisher Oil Co No 2 2
Wm Gallagher, Hunter & Cummings (est) 10

Martinsburg.

Abner Kelley, McKissock, Mildren & Adam 65
Cannon, Edwards & Co No 2 75
Thos Kelley, Manifold, Conley & Co No 3 35
" " No 4 35
" " No 5 40
Romer, Bradstreet & Hummison ..... gas
H S Daubenspeck, Shiedmantle & Adams ..... dry
" Connors & Fishel ..... dry
Thos Smith, Harrington ..... dry
M P Black, W J McKee 3
Bartley, Lockwood & Co ..... dry
Kepler, Shiedmantle ..... dry
A Kelley, Adams, Butler & Co 20
L P Daubenspeck, Shorts, Butler & Co No 2 60
" Connors & Fishel 8
Kelly & Kennedy, W J McKee 20
Connor, Cooper & Mead 20
St Joe, Shultz, Rigney & Co 20

Thorn Creek.

Wallace, Boyd, White & McTamany 15
McCormick, Phillips Bros No 2 ..... dry
Wallace, Fisher Oil Co No 20 6
" " No 21 20
Hartman, Markham & Bolard No 2 10

Wells completed 32
Production 495
Dry 10

DRILLING WELLS,

RIGS UP AND BUILDING SEPTEMBER 30, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
1,	(Swift f rm) Manhattan Oil Co No 9	rig bldg
I,	Pickering & Smith	400
1,	Straight & Hochstetter No 7	drilling
2,	Allen & Sternberg No 9	rig
2,	Coast Oil Co No 37	rig
2,	Pennell & Co No 1	sand
3,	Coyle (old)	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (fishing)	sand
12,	" No 10 (old)	rig
50,	Union Oil Co (old)	2 rigs
51,	Duke & Norton Oil Co No 53	drilling

New rigs 3
Old rigs 5
Drilling 5

Total 13

Alma.

2,	H L McMullan	350
3,	Triangle Oil Co No 17	rig bldg
3,	Weeter & Co No 2	drilling
3,	(M Jordan) Natl Fran Co (for gas)	drilling
4	Bellamy & Taylor No 4	drilling
19,	(Allen farm) Duke & Norton Oil Co No 54	drilling
19,	(Allen f rm) Duke & Norton Oil Co	rig
19,	(Allen farm) Duke & Norton Oil Co	rig bldg
20,	W F Coast	drilling
20,	"	rig
23,	Vance & Horton (old)	3 rigs
24,	New Milford Oil Co (old)	2 rigs
24,	W F Jones (old)	rig
26,	Willetts & Elliott (old)	rig
35,	John Browning No 2	drilling
36,	" No 3	rig
38,	Pikeville Oil Co No 8	drilling
47,	Noble & Co No 2	600
37,	Perrin & Young, No 11	drilling
37,	" No 12	drilling
51,	Sawyer & Co (old)	rig
85,	Shirley & Hochstetter No 1	rig bldg
78,	Torry & Pirden No 3 (old)	rig
88,	Duke & Co (old)	rig
86,	Shirley & Hoehstetter No 6	drilling
109,	" No 1 (old)	rig
140,	Willetts, Duke & Rauber No 8	drilling
110,	" No 9	rig bldg
121,	McCalmont Oil Co No 8	drilling
120,	" No 9	drilling
142,	Dean & Smith No 5 (old)	rig

New rigs 7
Old rigs 12
Drilling 15

Total 34

Wirt.

1,	Applebee Bros No 8	drilling
1,	" No 9	rig bldg
9,	Kilbur & Williams	drilling
14,	Lester & Co (old)	rig
33,	Wellman, Miner & Fuller	drilling
33,	" (old)	rig
33,	Stewart Bros	600
34,	Empire Gas Co No 2 (old)	rig
43	Unknown	rig
48,	W P Book	rig bldg
48,	Hatch & Phillips No 2	rig bldg
48,	Love & Co No 1	900
48,	R W Evans No 1	900
51,	Empire Gas Co No 5	drilling
51,	(I Jordan farm) Lester, Jordan & Co No 4	drilling
51,	(Jacob Jordan) " No 1	rig
52,	(Shaw farm) E T Johnson No 3	rig bldg
52,	" " No 4	rig bldg
52,	Johnson, Lovell & Rumsey (old)	2 rigs
52,	(Murdick farm) Wilson Bros & Ackerly No 7	drilling
60,	A B Cottrell No 1	rig
63,	(Hyde farm) Ackerly, Barton & Co No 1	sand

New rigs 8
Old rigs 5
Drilling 10

Total 23

Bolivar.

7,	Coast Oil Co No 31	500
7,	" No 34	200
7,	" No 37	rig
7,	Vosburg Oil Co No 21	1000
15,	Sawyer & Co (old)	rig
23,	Irwin & Morgan (old)	rig
23,	F C Streeter & Co No 9	drilling
24,	Riley Allen No 6	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	" No 10 (old)	rig
31,	Smith & Co No 10	drilling
33,	(Perry farm) D A Newton No 1	drilling
45,	John Knox & Co	drilling
63,	Johnson & Northrop No 15	rig

New rigs 3
Old rigs 4
Drilling 7

Total 14

Genesee.

14,	Merwin (old)	rig
21,	Empire Gas Co (old)	rig
22,	I Willetts No 14 (old)	rig
22,	" No 15 (old)	rig
22,	" No 16 (old)	rig
22,	" No 17 (old)	rig
22,	" No 18 (old)	rig
22,	" No 19 (old)	rig
23,	Hughes & Coughlin (old)	rig
23,	Emery Oil Co No 16 (old)	rig
23,	" No 17 (old)	rig
24,	Dusenbury & Wheeler No 4	rig bldg
Champlain	Emery Oil Co No 8 (old)	rig
29,	William Cranston (old)	rig
38,	S E Young (old)	rig
38,	Empire Gas Co (old)	rig

New rigs 1
Old rigs 15
Drilling 0

Total 16

Clarksville.

9,	Heuston & Brecht No 4 (old)	rig
9,	Merritt (old)	rig
10,	Angell Oil Co	rig
10,	Whipple & Davis No 11 (old)	rig
6,	(Hamilton farm) Ackerly, Barton & Co No 1	rig bldg
13,	(Congdon farm) Ackerly, Barton & Co No 3	rig bldg
13,	(Wixon) Bronson, Sharp Ackerly No 2	rig
13,	(Lane) Barton, Ackerly & Co No 1	drilling
13,	(Congdon) J M Congdon	rig bldg
14,	(Babcock) Ackerly & O'Neill No 1 (fishing)	sand
14,	(Bradford) Jas O'Neill No 1	drilling
20,	(Ernhout) Ackerly & Samuels No 6	rig
20,	" " No 8	drilling
20,	" " No 9	sand
20,	" " No 10	drilling
20,	" " No 11	rig
20,	" " No 12	rig
20,	" " No 13	rig bldg
20,	" " No 14	rig bldg
20,	" " No 15	rig bldg
20,	" " No 16	rig bldg
20,	(Zimmerman farm) Clarksville Oil Co No 3	600
30,	" Hogan & Murphy No 2	rig
20,	(McDougal) Lord & Whitnall No 2	drilling
20,	" Mack Oil Co No 2	400
20,	" " No 3	rig
20,	" " No 4	rig bldg
21,	(Counselman) Anderson & Co No 1	700
28,	(Butts), Coast & Finnegan No 2	drilling
28,	" " No 3	drilling
28,	" " No 4	rig bldg
28,	" " No 5	rig bldg
28,	" Love, Penzer & Co No 8	drilling
20,	" " No 9	rig
28,	" " No 10	rig bldg
28,	(Peckham) Penny & Co No 2	drilling
28,	" McElwaine & Co No 1	rig
28,	Congdon) Ash Warner & Co No 2	drilling
28,	" " No 3	drilling
28,	" " No 4	rig bldg
28,	" " No 5	rig bldg
35,	Dow & Canfield No 1	rig bldg

New rigs 22
Old rigs 3
Drilling 17

Total 42

Bradford Field.

East and West Branches.

Drake, Melvin, Kennedy & Drake No 15 — rig
" H C Zeigler No 4 — rig bldg
Dikeman, Whitney & Wheeler No 29 — 700
Dent, " No 40 (old) — rig
Pike, J T Jones No 12 — drilling
Newell, " No 21 — drilling
" " No 22 — rig
" " No 23 — rig
Clark, P Hannan No 3 — 100
Donnell, Wilbur Bros — rig
" " — rig bldg
Rogers, Healy & Co — rig bldg
Clark, Rolfe Bros No 27 (old) — rig
Cary, W H Duncan No 4 (old) — rig
Taylor Tract, Enterprise Transit C No 36 — 850
Dent, P C L & P Co No 64 — drilling
" " No 65 (old) — rig
Moody, Emery Oil Co No 105 — 100
Bingham, lot 152, Forest Oil Co No 14 — 200
" lot 886, R J Straight No 4 — rig bldg
" lot 190, Amm & Co No 63 — drilling
" lot 190, " No 64 — rig bldg
Taylor, Atlas Oil Co No 16 — drilling
" " No 17 — rig
Tuna't Coal Lands, Waugh & Porter No 6 — rig
Warrant 2268, VanVleck & Mitchell No 34 — drilling
" 2268, R J Straight No 15 — drilling
" 2268, " No 16 — rig
Stinson, Asher Brown No 14 — drilling
" Connolly Bros No 2 — drilling
Tomes, Willoughby & Kincaid No 1 — drilling
Craft, Archer & Roy No 14 — drilling
" " No 15 — drilling
" " No 16 — rig bldg
" " No 17 — rig bldg
Crooker, Jennings & Curtis No 12 — rig bldg
B O Co, Western Oil Co No 2 — sand
" " No 3 — drilling
" " No 4 — rig bldg
Cranmer, Columbia Oil Co No 6 — 900
Mack, " (old) — rig
Mack, Fisher Bros No 19 (old) — rig
Hatfield, Wesley Chambers — rig bldg
Blair, J J Carter No 26 — drilling
Wilson, O'Connell & George No 11 — drilling
Warrant 3908, Page & Co No 1 — sand
Brown, W C Ward No 2 — rig
Scott, J H VanWormer No 4 — drilling
Seward, Kemp & Laney No 2 — 600
Hinehey, McMurray Bros No 6 (old) — rig
Whittaker, Frank Davis No 3 (old) — rig
Paton, McClure & Co (old) — rig
Clark, McCray Bros (old) — rig
Willis, do (prodneing) — 550

Quintuple.

25, C W Seofield (old) — rig
44, J W Humphrey (old) — rig
220, Clark, Stearns & Co (old) — rig
260, E T Howes (old) — rig
105, Smith Seamen & Co — rig bldg
94, J Stettheimer No 13 — drilling
—, Camp & Zane No 13 — 200

New rigs — 19
Old rigs and shut down — 15
Drilling — 27
Total — 61

Kendall Creek.

Melvin, P C L & P Co No 85 — drilling
" " No 86 (old) — rig
" " No 87 (old) — rig
Monroe, Tarbell & Co — rig
Borden, Urquhart & Lavens (old) — rig
Willets, I Willets No — — drilling
Lafferty, VanVleck & Gifford No 41 — drilling
" " No 42 — rig
Brennan, A W Boyd No — — drilling
" " No — — rig bldg
Fisher, Larrabee & Wheedon No 8 — drilling

New rigs — 3
Old rigs — 3
Drilling — 5
Total — 11

Knapp's Creek.

Morton, Dan Clark No 4 — drilling
VanVleck, H M Miles — rig
Cummings, H T Breese — drilling
Baum, R Jennings & Son No 10 — drilling

New rigs — 1
Old rigs — 0
Drilling — 3
Total — 4

Foster Brook.

E T Co, Kirwin & Co No 1 — drilling
" " No 2 — rig
" " No 3 — rig bldg
C B & H, Page, Walker & Co No 3 — drilling
" " No 4 — rig
C, B & H, Juter & Yager (old) — rig
" R J Straight No 11 — 700
" " No 12 — rig
" Argue & Williams No 5 — drilling
" Bulger & Dana — 800
" R Y Mitchell, No 12 — drilling
" Watson Oil Co No 38 — rig
" C Wilder No 6 — drilling
" J S Patterson No 8 — drilling
" Young & Co — drilling
" " — rig
Tew, H W Tew — rig

New rigs — 7
Old rigs — 1
Drilling — 9
Total — 17

Four Mile.

Van Campen, Wm M Brown (old) — rig
" Wm Doe No 8 — sand
" " No 9 — rig bldg
" Barnsdall & Sterns No 1 — drilling
" " No 2 — rig
Waters, Griffin & Howard No 2 (old) — rig
C B & H, James Smith — drilling
Stevens, Book & Rhodes — drilling

New rigs — 2
Old rigs — 2
Drilling — 4
Total — 3

Indian Creek.

North Branch, J D Downing & Co (old) — 2 rigs
Morse, Morse & Brown (old) — rig
Hamblin, Miller & Odell No 4 (old) — rig
" John O'Brien — rig
" Forest Oil Co No 35 — 1300
" " No 36 — 350
Zimmer, " No 7 — rig
Cooper, " No 5 — rig bldg
Barse, R Buchanan — drilling
Union Oil Co. No. 37 — rig
" Reeves & Bussell — rig bldg
" F S Tarbell — drilling
Loop, Kinney — rig bldg
Weston, J L McKinney & Co No 7 — sand
" " No 8 — rig
Windsor, Manhattan & Cowles No 2 — 10
Templeton Pur. P. Templeton — rig
Cooper, C P Collins — drilling

New rigs — 8
Old rigs — 4
Drilling — 7
Total — 19

Cole Creek.

Rew, Capt E Frawley — sand
" Perry Timblin (fishing) — 300
" " — rig
Warrant 2263, Union Oil Co No 6 (old) — rig
" 2263, " N 7 (old) — rig
Bingham, lot 536, " No 31 — 200
" lot 495, " No 3 (old) — rig
" lot 548, " No 43 — sand
" lot 569, " No 41 — 100
" lot 496, " No 1 — rig bldg
" lot 497, " No 1 — rig
" Assd Producers Co No 54 — 1800
" " No 55 — rig
" lot 5 8, C P Byron No 3 — drilling
" lot 576, Rose & McLeod No 1 — sand
" lot 576, " No 2 — drilling
" lot 540, T J Melvin No 10 — 300
" lot 540, " No 11 — rig
" lot 369, Bennett & Thompson No 10 — rig
" lot 369, " No 11 — rig bldg
" lot 369 " No 12 — rig bldg
Hamlin, Reilly, Hunt & Mullen No 1 — drilling
Emerson, John Gilbert — sand
Haskell, Backus & Co — drilling
Smethport Borough, Gas Co (for gas) — 1000

New rigs — 8
Old rigs — 3
Drilling — 14
Total — 25

Kinzua.

Warrant 3076, Union Oil Co No 60 — 1500
" 3084, " No 61 — rig bldg
" 2243, Emery Oil Co No 42 — 1000
" 2243, " No 43 — rig
Lot 129, P T & W T Kennedy No 7 — 200
Lot 154 Union Oil Co No 18 — rig
Lot , Coal Lands, J J Carter No 16 — drilling

New rigs — 3
Old rigs — 0
Drilling — 4
Total — 7

Miscellaneous.

Warrant 3669, Sub 137, P F Kearns — drilling
" 5726, (J D Harris) Bovee, Duck & Co — rig
" 3712, Stone, Beatty & Co — rig bldg

New rigs — 2
Old rigs — 0
Drilling — 1
Total — 3

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village.

Marsh, C P Collins & Co No 2 — rig
" " No 3 — rig
Wm Marsh, Phillips, Collins & Co No 4 — sand
Fuller, Pliny Parker & Co — 200
Rollin, Borchert & Smith No 3 — rig
" Anchor Oil Co No 3 — sand
Wm Harris, Wm Vogel & Co No 5 — drilling
" " No 6 — rig
" " No 7 — rig bldg
English, Brown & Collins No 2 — rig
Swift, Swift & Phillips No 1 — 350
Culbertson, Porter & Conley — rig
Morrison, Ancan r Oil Co No 3 — sand
" " No 4 — rig

Warren.

Wardwell, Benedict & Robinson No 25 — drilling
" " No 26 — rig
James Roy, James Roy No 21 — 100
Hook, Mac Nesmith (old) — rig
Island, Coggswell & Co No 3 — rig
2921, (Mead) Miller & Odell No 2 — rig bldg
2921, " C C Mitchell & Co — rig
Irvine, Brown Bros No 8 — sand
" T J Melvin No 8 — rig bldg
McWilliams, Picket & Stone No 11 — 100
" " No 12 — rig bldg
Lacey, Bradley & McDonald No 5 — 100
Wm Scott, Hackett & Shirley No 3 — rig
Rogers, Barnsdall Bros No 14 (old) — rig
" " No 15 (old) — rig

New rigs — 15
Old rigs — 3
Drilling — 11
Total — 29

Clarendon.

55, Union Oil Co No 28 — drilling
55, Hazeltine & Bell No 8 — drilling
36, Borchert & Smith No 9 — rig
54 D Beatty & Son No 36 (old) — rig
78 " (old) — 2 rigs
35 and 53, Thompson & Collins No 12 — sand
" " No 13 — rig
496 D Beatty & Son No 11 — 300
496 " No 12 — rig
496 Fred Hue No 10 — 400
496, Paul Kratzer No 8 — rig
497, Millison & Heath — sand
496, J B McElwaine No 4 — sand
496, " No 5 — 700
464, Lockwood & Parsons No 13 — 400
499, Munroe & Finnegan No 6 — rig
465, J Smith & Son No 11 — 700
463, Maginnis — rig bldg
494, D Riddlesperger No 2 — drilling
496, Magee, King & Co No 10 — drilling
493, Bines & Co — sand
499, Patterson & Solliday — rig
499, C C Adams No 6 — drilling
80, D J Thayer, No 11 — drilling
80, " No 12 — rig
194, " No 1 — rig
80, Johnson & Irvine No 4 (old) — rig
80, " No 5 — rig
80, " No 6 — rig bldg
105, W L Curtis — rig
108, C H Filkins (old) — rig
108, Thos Hackett No 3 (old) — rig
106, F H Rockwell & Co — rig
530, H B Porter No 13 — rig
558, Goal Bros No 17 — drilling
558, " No 18 — drilling
558, Goss, Goal & Haskell, No 1 — rig
558, " No 2 — rig
557, C C Duffield No 3 — 700
558, Tait & Patterson No 40 — sand
558, " No 41 — rig
554, Boo & Gallan — drilling
555, J D Beers No 2 — rig bldg
557, Dyson & Louden No 10 — rig
526, Keatley Bros No 10 (old) — rig
527, F H Rockwell & Co No 17 — rig
527, " No 18 — rig bldg
562, " No 18 — sand
540, A L Kern — rig
609, H G Lapham — sand
592, Clark, Foster & Co No 5 — drilling
591, " No 6 — rig
578 Nickel & Munn — rig bldg

New rigs — 24
Oil rigs — 7
Drilling — 23
Total — 54

Tiona.

83, Booth Bros & Co No 1 300
59, J L & J C McKinney (shut down) ..... sand
82, " No 5 ..... drilling
82, " No 6 ..... rig
82, " No 7 ..... rig
103, (lot 17) " No 1 ..... drilling
103, " " ..... rig
103, (lot 15) " No 10 ..... rig
103, " " No 17 ..... drilling
103, " " No 20 ..... rig
103, " " No 21 ..... sand
103, " " No 22 ..... rig
104, " No 8 ..... drilling
104, " No 9 ..... rig
110, (lot 9) " No 1 ..... drilling
110, " " No 2 ..... drilling
110, " " No 3 ..... rig
165, " No 14 300
165, " No 17 ..... drilling
165, " ..... rig
104, R R Armor No 8 ..... drilling
104, " No 9 ..... rig
104, " No 10 ..... rig bldg
109, (Bean farm) O'Donnell & Hill No 2 ..... rig
161, O'Donnell & Tobias No 9 ..... rig bldg
165, McKelvey, Best & Co No 12 800
200, Bovee & Duck No 4 ..... sand
200, Wesley Chambers No 6 ..... drilling
204, Mandell Oil Co No 7 ..... sand
204, " No 8 ..... rig
202, " No 9 ..... rig bldg
202, " No 10 ..... sand
202, " No 11 ..... rig
203, Booth & Co No 3 300
205, H B Beatty & Co No 15 200
2 5, " No 16 ..... rig
205, J R Kuhn & Co No 2 ..... rig bldg
164, Hill & Powell No 5 ..... rig
164, Howe, Work & Moore No 1 ..... sand
201, R M Brown & Co No 7 200
201, " No 8 ..... rig
201, Short & Dunham No 1 500
201, " No 2 ..... rig
201, Wesley Chambers No 1 200
201, " No 2 ..... rig bldg
111, E O Emerson No 2 200
158, Williams ..... drilling
240, (Tidewater) E O Emerson No 5 300
240, " " No 6 ..... rig
240, Cochran Bros No 5 ..... rig bldg
241, F W Winger No 14 300
241, L Kraeer & Co No 16 200
241, " No 17 ..... rig
243, Cochran Bros. No. 3 ..... rig
244, Horton, Crary & Co No 2 ..... rig
244, " No 4 ..... drilling
244, " No 5 ..... rig
240, Dalrymple & Co No 1 ..... rig
245, Shoelkopf, Horton & Co No 3 ..... drilling
281, Horton, Kraeer & Co No 2 ..... sand
281, " No 3 ..... rig
281. " No 4 ..... rig
284, Watson & Mitchell No 2 200

New rigs 31
Old rigs 1
Drilling 31
Total 63

Cooper District.

401, Anchor Oil Co drilling ..... sand
407, Shank & Stewart No 8 ..... drilling
407, " No 9 ..... rig bldg
408, McCalmont Oil Co No 22 600
408, " No 23 200
408, " No 24 ..... rig
438, Schuyler & Emery No 23 ..... drilling
438, " No 25 ..... rig

New rigs 3
Drilling 5
Total 8

Balltown.

738, Barnsdall Bros 400
740, Dufur ..... rig
754, Book & Gartlan 500
3195, (Crisman) N F Clark No 5 ..... sand
3195, " " No 6 500
3195, " " No 7 ..... rig
3195, (Stone) " No 6 200
3195, Nickel Oil Co No 4 ..... rig
3194, Porcupine Oil Co No 35 ..... sand
3198, Ragan & Goff 400
5215, May, Kelley & Grandin No 37 600
5215, " No 38 ..... rig bldg
3197, (Sterrett) Balltown Oil Co ..... rig
4791, Armor & Co ..... rig

New rigs 6
Old rigs 0
Drilling 7
Total 13

Miscellaneous.

Shamburg, (Forest county) Dr Shamburg ..... drilling
McKean, 3767, White & Clemenger ..... drilling
5214, Schooley, James Welsh 600
Tidioute (J G Tipton farm) Shoelkopf 300
Spring Creek twp, 352, Parish & Bremer ..... rig
McKean, 214, (Blanchard farm) Curtis 300
" 276, Warren H & L Co ..... drilling

New rigs 1
Old rigs 0
Drilling 6
Total 7

Lower Country.

Venango and Other Sections.

Biery, Richardson & Hughes 400
Lovell, Anchor Oil Co No 2 ..... rig
McCalmont, S P McCalmont ..... drilling
" " ..... rig
McBride, Smith & Co 500
Noble, Octave Oil Co No 7 300
" " No 8 ..... rig bldg
Farrell, G P Kepler No 4 300
C H Emerson, " No 5 ..... rig bldg
Mitchell, W W Hague No 3 200
Proper, " No 3 ..... rig bldg
W Scott Petrm Co, Jesse Wheelock 400
Enterprise, Kountz ..... rig
Grandin, Milton Stewart 200
Pit Hole, (Lamb farm) Shoemaker & Co ..... rig bldg
" " W Rifenburg ..... rig bldg
Kerr, U C Welton ..... rig
A Stewart, M B McManus ..... rig bldg
Pet Center, Tarr farm, Kulp & Co ..... rig
Griffith, Purtell ..... rig
Lee Hicton, Roess Bros & Co No 9 ..... rig
Cross, Hovis 1000
Balliott, W T Baum 300
" " ..... rig
Hovis, Hovis & Co 200
Cross, Hovis & Co ..... sand
" Hower & Co 200

Rockland.

Robert Porter, Goodrich & Salisbury No 2 ..... rig
" Flynn, Klingler & Co No 1 400
" " ..... rig bldg
D Porter, Dale Bros No 1 ..... rig bldg
Hetzler, Dale Bros No 2 300
Jolly, " No 2 ..... rig bldg
" Wentling & Co 200
" Duncan & Lowentritt ..... rig
David Jolly, Fisher Bros ..... rig bldg
John Hetzler, Wentling, Mull & Co ..... rig bldg
Young, John Lee & Co 200
Nuffer, Oil City Fuel Supply Co 800
Milligan, Harley & Jack ..... sand
Dianiond, J B Smithman, No 4 300
" " No 5 ..... rig
" Darr & Manning No 8 ..... rig
Oberly, Oberly ..... rig
Pioneer, D R Davis ..... drilling
Allison, Fisher Oil Co No 9 ..... rig
Morrison, Fisher Oil Co No 5 ..... rig
Kaufman, P H Judd No 7 ..... rig
Mitchell, F W Mitchell No 19 200
Shaw, Gillespie & Co ..... rig
W W Dale, Oil City Fuel Supply Co ..... drilling
Rynd, Geo Wratan ..... rig bldg
Wm Cromer, Reed & Co ..... rig
Sawtown, J B Smithman ..... rig
Lloyd, I N Patterson 100
" Log & Ritts ..... rig bldg
Webb, Taylor & Torrey ..... sand
Gailey, Kugler & Gailey No 10 ..... drilling
" " ..... 2 rigs
Handshaw, Handshaw 200
Pyle, Koch Bro & Co 100
Rouseville, J Robinson ..... drilling
McCray, Wm McCray ..... rig
Hasson, W Robinson & Co ..... rig bldg
Blood, P Bankson ..... rig bldg
Columbia, Columbia Oil Co No 162 ..... drilling

Mt. Hope.

Creamer, Galbraith & Shepherd 800
Jones, " ..... rig
Philadelphia & Boston Tract, Shultz & Co 700
Rembold, Shaffer & Dale ..... rig

Vicinity Emlenton.

Eli Osman, N Mackin ..... rig
Bailey, Cooper & Co ..... sand
Dr A W Crawford, A A Hopkins (old) ..... rig
J M Black, Crawford & Black ..... rig bldg
" Weible & Boyce 400
Kohlmyer, John Case (old) ..... rig
D Russell, Baum ..... drilling
R W Porterfield, R W Porterfield 300
J Smith, Sheasley & Co ..... drilling
" ..... rig bldg
Emlenton, S Kries 100
Weller, John Weller 300
Cross, S W Phillips No 3 ..... rig
Grant, J P Crawford ..... rig bldg
Jew Tract, Jamison & Thomas ..... rig
Crawford, Weaver ..... rig
Sloan, Dutton 300
Emlenton, Graham & Co ..... drilling
Royal, Wilson Bros No 1 ..... rig bldg
Grant, Bennett, Flynn & Allen ..... rig bldg
Thompson, Sherwood & Co ..... rig

New rigs 49
Out rigs 2
Drilling 41
Total 92

Clarion.—Cogley Run.

Gibbs, Ashland Oil Co No 9 600
" " No 10 600
" " No 11 ..... rig
" " No 12 ..... rig
" " No 13 ..... rig
" " ..... sand
Rickenbrode, " No 5 ..... rig
" " No 6 ..... rig
Strutman, H C Zeigler No 1 800
Fisher, Cogley Oil Co No 4 300
" " No 5 500
J M Deitrich, " No 2 1000
" " No 3 500
" " No 4 ..... rig
Conrad Kinnemuth, Cogley Oil Co No 1 ..... rig
Fisher, J B Smithman No 8 300
" " No 9 ..... ig
Berlin, Patterson & Leedom No 7 ..... sand
" " No 8 750
Shippen, " No 2 ..... rig bldg
Ray, Blackwell & Co 100
Deitrich, Deitrich & Youmers No 4 600
" " No 5 ..... rig bldg
Fern, White & Gifford No 5 100
" " No 6 100
" " No 7 ..... rig bldg
Fisher, Staley & McDonald No 3 (old) ..... rig
M P Hess, Koch & Goettel No 5 700
Young, Hale, Moriarty & Co No 4 100
" Staley & McDonald No 7 ..... rig bldg
Fowls, McCalmont Oil Co No 6 (fish'g) 400
" " No 8 700
" " No 9 100
" " No 10 ..... rig
" " No 11 ..... rig
Ben Hess, J B Smithman No 8 ..... rig
Cr unoble, " ..... rig
Barber, Barber No 2 900
John Deitrich, Kiser & Co No 3 300
" Riddell & Co No 5 1000
" " No 6 ..... rig
" Holt & Morrison No 2 300
M P Hess, Urquhart & Lavens No 8 700
" Gillespie & Co No 2 1000
Jake Black, A Harrington (old) ..... rig
Freyburgh, Mahle Bros ..... drilling
Heeter, Heeter Bros No 3 400
" " No 4 100
" " No 5 ..... rig bldg
" " No 6 100
" Wolf & Kugler No 3 300
" " No 4 ..... rig bldg
" Kribbs & Knight No 1 50
" " No 2 ..... rig
" Thos Hulings No 2 ..... rig
" Three Spot Oil Co No 1 700
" " No 2 650
" " No 3 200
Hess & Sackett, Robert Long No 1 800
" " No 3 100
" " No 4 ..... rig
Fry, Phipps, Maxwell & Co No 2 ..... sand
W L Hess, Koch Bros No 3 ..... rig
" S P Morrison No 2 100
Beals, Beals, Hunter & Co No 3 100
" " No 4 ..... rig
" " No 5 ..... rig bldg
" Brown, Whitehill & Co ..... rig
" Gosser, Weller & Co 100
" Kiser & Hollenshead ..... rig
" Hann & Milligan 600
" Korner, Bros & Co 600
" William Crawford & Beals 700
" Shippen, Woodburn & Co 700
" Lockwood & Dickey 400
" " ..... rig bldg
" Fertig Bros No 2 ..... rig
" Wesley Chambers No 2 ..... rig
" " No 3 ..... rig bldg
" Campbell & Murphy ..... rig
E Slicker, div 1, Knight & Koch ..... rig
" div 2, Wolf & Kugler No 1 300
" div 2, " No 2 ..... rig
" div 3, Austin & McCormick No 1 500
" div 4, H J Slicker & Co 200
" div 6, Koch Bros & Maxwell 100
" div 9, G Utzinger & Co ..... rig bldg
" div 10, Scott, Cox & Baynham 500
" div 11, S S Fertig & Co 600
" div 12, Wesley Chambers No 1 200
" div 13, Shaffer, Sheasley & Co No 1 600
" div 13, " No 2 200
" div 13, " No 3 ..... rig bldg
Smith, Wolf & Kugler 300
John Henel, Koch Oil Co No 1 900
" " No 2 ..... rig
Amos Strutman, Booth, Gifford & White ..... rig

Gillingham, Doyle, Gill & Co No 5 800
" " " No 6 600
" " " No 7 600
" " " No 8 rig
" " " No 9 rig bldg
" " " No 10 rig bldg
Black, " No 1 700
" " " No 2 rig
" " " No 3 rig bldg
" Hess & Sackett No 2 300
" " " No 3 200
" " " No 4 rig
" " " No 5 rig bldg
Geo Hess, W H Milligan No 1 (fish'g) 1000
" " " No 2 800
" " " No 3 rig
" Hess, Snively & Co 400
" H H Stow & Co 100
Mayer, Urquhart & Lavens (old) rig
Phipps, Cowles & Mimm drilling
Buzza, Whitehill & Co sand
Sowers, Hite & Walters No 2 rig bldg
" " No 3 400
" Sheasley & Shaffer No 1 300
" " No 2 700
" " No 3 rig
John Kinnemuth, Lovell & Rumsey No 3 400
" Howe, Kribbs & Co No 2 100
" " No 3 rig bldg
H J Smith, Isaac Mong & Co 600
" J E McIntyre & Co 500
" Geo LeFlemme & Co 200
" Shaffer & Sheasley No 1 100
Baum, D J Thayer sand
" Greenlee & Co rig bldg
" John Rowe & Co 500
" Berlin & Co No 3 rig bldg
" McClellan & Co 100
Even Miller, Crawford, Brothers & Cushing 400
Edmund Heirs, Urquhart & Lavens rig
Kale, Hite & Co No 2 rig
Berlin, Berlin & Son 100
Kinnemuth, Chauncey Oil Co No 7 100
" " No 8 100
" " No 9 rig
W L Hess, " No 2 600
Kinnemuth, H C Zeigler No 1 700
" " No 2 700
" " No 8 200
" " No 4 rig
" " No 5 rig
School House Lot, Frampton & Co rig
Widow Deitrick, Staley & McDonald No 1 100
Harmon, Wolf & Fertig 600
Widow Deitrick, " 800
Cotherman, Weaver & Taylor rig
" Hall & Kepler rig bldg
Snively, Henry Hess & Co rig
Findley Heirs, Unknown rig
Henry Weber, Hall & Kepler rig bldg
Weaver, Lewis, Caldwell & Co rig
J Berlin, Shaffer & Sheasley No 1 rig
John Miller, Wentling & Taylor rig bldg
Even Miller, Isaac Heasley Magee drilling
" Pierce & Robinson 200
Fred Smith, Kerr & Byers sand
Long, R J Nicholson rig
Mimm, Fertig & Stewart rig bldg
Leslie, Swartz, Feger & Co rig bldg
Fritz, Mrs Joseph Wood rig
Conrad Kinnemuth, Moore & Co rig bldg
Mong, Hatch & Frederick drilling
Paul Black, Crawford & McDowell 500
Deer Creek, Whitehill & Co 7 0
Sligo, Newell & Jones drilling
Fox Estate, Fox & Fink 400
Panton, Panton (old) rig

New rigs 71
Old rigs 4
Wells drilling 98
Total 173

BUTLER AND ARMSTRONG.

Various Sections.

Brownfield, W L Smith & Co 300
Kesselman, Bott & Story rig
J Pontius, Lynch & Co (old) rig
S Pontius, Hunter & Cummings No 4 900
" " No 5 750
" " No 6 300
" " No 7 rig
Mars Station, Belford, Clark & Puzzy 1200
" Kennedy, Crawford & Co 1000
" Covert, Dalzell & Co drilling
Helmbold, Leidecker & Co 1500
Muddy Creek, Fisher Oil Co (gas) drilling
" " gas (old) 2 rigs
Duffey, Boyd & Armstrong 900
Keelting, Bunner & Co 1200
McCandless, Butler Gas Co (gas) 500
Keister Station, G G Stage & Co drilling
Vosbrink, Reep & Sutton rig bldg
O'Brien, " rig bldg
McCandless, Reiber 900
Fehl, McJunken & Co 1300
Deer, Kunkle & Co 100
Behm, Laupe 700
Denny, Hatch & Co (old) rig
James B Caldwell, Phillips Bros 1200
Thos Mechlin " 800
Barr, " rig
Bunting, " 1700
Wm Gallagher, Hunter & Cummings No 3 rig bldg
Leithold, " No 2 rig bldg
J B Steele, R Jennings No 11 rig bldg
Alex Story, Hazelwood Oil Co 500
McLaughlin, Story & Co 200
Jenkins, McKay & Co rig
M Barnhart, H L Westerman & Westerman Bros No — 300
McKeever, Showalter & Hartman No 1 800
Mrs Ort, Westerman & Co No 2 600
John Frederick, " No 1 700
Tittle, Hart Bros No 1 200
Eminger, Boyd, Sample & Co rig
D Shakely, McTamany & McCormick 300
M Myers, Sabine, Hooks & Co 200
Joseph Hartman, Dale, Bruce & Larkin rig bldg
Black, Ross, Reynolds & Co rig
James McBride, Brady & Co rig bldg
Thompson, Fisher Oil Co rig bldg
Beisenbach, " rig bldg

Martinsburg.

Abner Kelley, McKissock, Mildren & Adams 100
Cannon, Edwards & Co No 3 600
" " No 4 rig bldg
" Sheidemantle (old) rig
" Wm Birchey (old) rig
Campbell, Campbell & Co rig
John Kelley, W A Kelley drilling
McGill, Adams, Butler & Co rig
Bell, Elliott & Co drilling
L P Daubenspeck, Shorts, Butler & Co No 3 1200
" Connors & Fishel 900
A Kelley, Hooks Bros No 6 900
Wm Story, Beatley & Co 600
Widow Reep, Brawley Bros 900
Abner Kelley, E H Adams & Co (old) rig
John Kelley, Mildren Bros (old) rig
John Say, Wm Arnold 500
Kennedy & Kelley, W J McKee No 2 300
Robert Story, " 200
Donley, Bear Creek Oil Co 600

St. Joe.

Oswald, Bredin, Lappe & Co 1400
Widow Martin, Campbell & Murphy (fishing) 300
Kirch, Hite & Co 800
Hesler, Christie Bros No 2 800

Thorn Creek.

Henderson, Johnson & Co No 3 (fishg) 1000
Noel, H H Stow No 2 150
Wallace, Shiedemantle (old) rig
McLaughlin, Bennett & Hoffman No 2 1500
Mharg, O M Russell (old) rig
Hartman, Leidecker & Turner rig
Hazlett, J S Campbell 50

New rigs 19
Old rigs 10
Drilling 50
Total 79

Washington.

The Gordon well, in the Washington field, began pumping on the 5th of October, and has since been making a good record as a pumper. The gauge for the 24 hours ending October 14 was 118 barrels. The rock caved in at the Gantz No. 1, breaking the cable and leaving the tools in the hole. They also have a fishing job at the Pew & Emerson well on the Gabby farm. At last accounts the Star Oil Company's well on the Smith farm, northeast of Washington, was the only drilling well in the field which had arrived at any depth which was not fishing. The following are some of the new operations: The Citizens' Heat and Light Company have a rig up for No. 2 on the Hess farm. The rig is up for Gordon No. 2, which is located about 1,300 feet south of No. 1, and on the Creek T. J. Vandergrift & Company have a rig up on the Wirick farm, about 300 feet west of the Gordon No. 2. Coast Oil Co. have a rig building in the Washington district. The Citizens' Heat & Light Company have a rig up for No. 3, west of the Gantz No. 1. The Niagara Oil Company are drilling on the Montgomery farm, northwest of the Gantz No. 1. R. H. Thayer has a rig up on his new purchase west of the Gordon well. William Walker, a well-known Bradford contractor, is fishing at the well on the Wilson farm at a depth of more than 1,700 feet. His loss, if he fails to recover the tools, will be over $3,500.

From barometric levels taken by the scouts the elevation above tide of a number of the wells are as follows: Gantz No. 1, 1,011 feet; Gordon well 981, and the Gabby 1,121 feet. As nearly as can be ascertained the deep sand, or the Gordon sand, was struck in the Gordon well at a depth of 2,384 feet. The measurement taken was 2,391 feet 9 inches, and the drill was then supposed to be from six to eight feet in the sand. According to this measurement and the elevation given, the deep sand which affords nearly all the oil at this well is 1,403 feet below tide level. The Gabby well contains 620 feet of 8-inch pipe and 1,425 feet of 5 5-8-inch pipe. Mr. John A. Taylor, who has represented Mr. Seep in Olean for a number of years, is now stationed at Washington, and buys oil produced in the Washington field. As it is loaded direct on the cars producers save the pipeage and get the premium of 12 1-2 cents on lower country oil, which gives them an advance of 32 1-2 over Bradford and Allegany rates.

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

MONTH.	1879	1880	1881	1882	1883	1884	1885
January	----	110 1-5	95	83	92¾	111¼	70¾
February	----	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100¼	80¾
April	78⅜	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85½	79⅜
June	68¾	100¼	81	54½	117¼	68¾	82¼
July	69⅞	101¼	76⅛	57⅝	108	63½	96¾
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	100⅜
September	69¾	95½	92¼	71⅓	112½	78	100¼
October	88⅛	96¾	92⅜	93⅜	111⅛	71	
November	105⅜	91¼	82½	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

The Refined Market.

The market for refined has remained unusually quiet for this season of the year. The heavy demand that was anticipated on the part of the European buyer has not yet set in. The foreign consumer evidently has no fear of an immediate diminution in the supply, and has not yet taken the initiatory towards replenishing his diminished stocks. The only event of any importance in refined, for the month, was the marking up of the price, on the 24th ult., from 8⅜ to 8½ cents for 70 deg. Abel test. While showing the confidence of the American refiner in the present situation, it had no appreciable effect in stimulating business. Rates to European ports are ruling very low, vessels offering to carry petroleum at from 2s. to 2. 1½d. per barrel, for direct continental ports.

Russia has been making an earnest effort to secure a footing for her refined oil on the Continent and in England. Of the cargoes sent to England, Joyce & Co. say of Russian oil: "The trade realizing the superior odor, color, and barrels in some parcels over others are now taking oil ex 'Novoselsky,' freely, but strange to say they want it at the same price as ordinary Standard white oil, or even a shade below, though the oil certainly seems about ½d. better quality, and burns extremely well." But with an advance of a cent or so on the present quotations of our refined, the prudent German and the economical Englishman might be induced to look upon Russian oil with greater favor, and in the event of an active competition resulting, the cheaper article, provided the difference in quality be not too great, is bound to prevail.

Refined in cases has been in limited demand at from 9½ to 10⅝ cents, according to brand. The raising of the blockade by the French of several of the Chinese ports, resulted in an increased demand on the part of China for this kind of goods, which has been the principal feature of this month's business. The shipments of refined in cases to the East, for nine months of the present year are 516,197 cases in excess of the same time last year, but September, '85, shows a falling off of 115,836 cases as compared with September, '84.

The domestic trade at this time is very large, while prices remain about the same, Standard White quotations being as follows: 110 test, 8 1-2 to 9c.; 120 test. 9 1-4 to 9 3-4c.; 130 test, 8 7-8 to 9 1-4c.; N.Y. State test, 9 1-2c.; 150 test 10 3-4c., and 300 test 12 to 13c. Naphtha remains firm at 7c.

Mr. George H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East up to the first of October, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai, previously reported	1,347,776	477,908
" September	172,274	
Hong Kong, previously reported	629,769	558,125
" " September		
JAPAN—Yokohoma, previously reported	674,071	588,579
" " September	53,000	
Hiogo	641,875	452,153
Nagasaki	74,942	71,516
INDIA—Calcutta, previously reported	846,150	1,560,867
" September	161,217	
Bombay, previously reported	925,854	756,464
" September		
Kurrachee	96 263	51,505
Point de Galle	18,428	66.720
Madras	47,382	42,260
Rangoon and Colombo	133,391	208,875
JAVA—Batavia	515,896	426,584
Anjier	634,440	1,240,147
SINGAPORE	163,933	172,253
Penang and Singapore		28,900
Penang	169,975	139,380
Other Eastern ports	314,399	262,602
Total October 1	7,621,035	7,104,838
Total september 1	6,962,699	6,330,666
September clearances	658 336	774,172
Decrease as compared with Sept'r last year	115,836	

REFINED QUOTATIONS FOR SEPT'R.

	New York	Philadelphia	Baltimore	London and Liverpool	Bremen	Antwer
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	8⅜	8¼	8¼	7⅛	7.65	19½
2	8⅜	8¼	8¼	7⅛	7 65	19⅜
3	8⅜	8¼	8¼	6⅞	7.60	19⅜
4	8⅜	8¼	8¼	7⅛	7.60	19⅜
5	8⅜	8¼	8¼	6⅞	7.60	19¼
6						
7	8⅜	8¼	8¼	7⅛	7.60	19
8	8⅜	8¼	8¼	7⅛	7.60	19
9	8⅜	8¼	8¼	7⅛	7.60	19
10	8⅜	8¼	8¼	7⅛	7.55	18⅜
11	8⅜	8¼	8¼	7⅛	7.55	18¾
12	8⅜	8¼	8¼	7	7.55	18⅝
13						
14	8⅜	8¼	8¼	7	7.55	18⅝
15	8⅜	8¼	8¼	7	7.55	18⅝
16	8⅜	8¼	8¼	7	7.45	18⅝
17	8⅜	8¼	8¼	7	7.50	18⅝
18	8⅜	8¼	8¼	7	7.50	18¾
19	8⅜	8¼	8¼	7	7.50	18¾
20						
21	8⅜	8¼	8¼	6⅞	7.50	18⅜
22	8⅜	8¼	8¼	6⅞	7.55	18½
23	8⅜	8¼	8¼	6⅞	7.55	18½
24	8½	8⅜	8⅜	6⅞	7.55	18¾
25	8½	8⅜	8⅜	6⅞	7.55	18¾
26	8½	8⅜	8⅜	6¾	7.55	18⅝
27						
28	8½	8⅜	8⅜	6¾	7.55	18⅝
29	8½	8⅜	8⅜	6¾	7.50	18⅝
30	8½	8⅜	8⅜	6¾	7.50	18¾

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO SEPTEMBER 30, 1885.

18-2.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge Bbls.
May	6,765	-----	------	6,765	218
June	91,102	------	------	91,102	3,035
July	268,294	------	------	268,294	8,655
August	753,752	------	------	753,752	24,317
September	690,072	------	------	690,072	23,0 2
October	290,246	3,712	------	29 ,958	9,483
November	146 587	8,810	------	155,397	5, 80
December	98,582	17 342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	33,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217.408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8.376
July	58,619	104,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,353	96,024	11 ,700	256,077	8,536
October	40,677	102,748	133,248	27 ,673	8,925
November	32,711	97,516	114 233	244,490	8,150
December	32,885	89,164	116,747	2 8,796	7,703
Total	755,512	1.095,558	776,244	2,627,314	7,198
1884					
January	23,787	90,145	87,061	200.993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87 193	261,784	8,445
April	31,191	226,860	71,989	230, 40	7,668
May	30,010	107 514	70,069	207,593	6,696
June	25,348	89 554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
September	19,590	64,648	63,473	147,91	4.923
October	13,824	56,151	55,211	125.186	4,038
November	12 689	39,065	42 025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1-85.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25.469	62,262	2,224
March	11,558	2 ,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71.2 6	2,297
June	13,181	29,998	31,340	74 519	2,484
July	14,478	28,095	31,990	74,563	2,405
August	11,247	28,603	28,828	68,678	2,216
September	9,367	27,531	28,315	65,213	2,174
Total Sept. 30, '85	3,465,615	2,402,660	1,838,328	7,706,603	6,170

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time

oil was first run in each district up to Sept. 30, 1885. Cherry Grove has produced 3,465,615 barrels, Cooper 2,402,660, and Balltown 1,838,328 barrels. The daily average runs from the three fields during September were 2,174 barrels, a decrease of 42 barrels from the August figures. The daily average runs from the Cooper and Henry's Mills section for September were 918 barrels, for August 923 barrels, and for July 906 barrels.

The Balltown field had a daily average of 944 barrels for September against 930 in August. Cherry Grove averaged 312 barrels during September against 363 in August, 467 in July, and 439 in June.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to September 30, 1885, inclusive, has been 7,706,603 barrels, a total daily average of 6,170 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND COGLEY RUN.

The runs from Baldridge since April 1, 1884, and from the Cogley district since May 1st, 1885, have been as follows:

Month.	Baldridge Runs.	Daily Average
April	25 325	844
May	32,885	1,061
June	29,070	969
July	27,545	889
August	26,134	843
September	79,324	2,644
October	187,068	6,034
November	284,896	9,493
December	270,644	8,730
January, 1885	192,180	6,199
February	205,774	7,349
March	224,398	7,239
April	280,005	9,333
May	232,138	7,488
June	105,774	5,905
July	119,531	3,856
August	70,318	2,268
September	60,637	2,021

	Cogley. Runs.	Daily Average.
	3,927	127
	18 226	607
	37,848	1,220
	65,570	2,115
	97,325	3,244

For the five months ending with September 30th the Cogley oil field has produced 222,896 barrels of oil, a daily average of 1,457 barrels. The average daily runs for September were 3,244 barrels, an increase of 1,129 barrels over the August average. The Thorn Creek and Baldridge runs averaged 2,021 barrels in September against 2,268 in August.

Crude Market for September.

The market fluctuated within narrow limits during September, and its most striking characteristics were weakness and uncertainty. There was only one day in the month on which crude oil failed to sell at the dollar point or better. The highest figures were attained on the 1st, when 103 was bid, and the lowest on the 10th, when 98 3-4 cents a barrel was the ruling price for the moment.

The trade still remains in a waiting condition, apparently convinced that the situation warrants an advance when the relative conditions of supply and demand are considered, but preferring not to load up on long oil until definite information is obtained in regard to prospective territory in the southwest.

The monthly reports of field operations for both August and September have shown a remarkable activity in drilling, but in spite of the constant increase in the number of completed wells the figures on comparative production are still very bullish. The Cogley district in Clarion county has furnished a considerable area of first-class territory, but the zenith of its powers will doubtless be reached before the close of the present month. Little fear is entertained of the notorious Leidecker well in Butler county, and the deep sand of Washington county remains the only uncertain factor in the problem of crude supply.

The situation never appeared more favorable for a sharp advance of large proportions, such as have been successfully engineered by heavy bull cliques in the past history of petroleum speculation. In the oil regions there is an entire absence of that *furore* for buying that set in with the collapse of the Cherry Grove field, three years ago this fall, and the producer is pursuing his legitimate business in a conservative way that puzzles the enthusiastic prophet of higher prices. It is evident that something out of the ordinary must occur before oil men, as a unit, can be induced to hazard their possessions again by investments in the crude certificates that represent their own industry and perseverence. Under these circumstances the advances that occur are generally occasioned by a preponderance of bearish sentiment that always prevails when the market remains for any length of time within narrow and seemingly circumscribed limits. Russia, as a source of supply for the continent of Europe, also exerts an influence on crude values that it is impossible to estimate, and must continue to do so, so long as we are dependent upon consumers across the water to purchase the greater part of our yield of crude oil.

The range of prices for September was 4 1-4 cents as compared with 7 1-4 cents in August, 13 1-8 cents in July, 18 cents in June, 4 3-4 cents in May, 4 3-8 cents in April and 8 cents in March. The average price for the month on the floor of the Bradford Exchange was 100 3-4 against 100 3-8 in August, 96 3-8 in July, 82 1-4 in June, 79 5-8 in May and 78 7-8 in April. The average price for September, one year ago, was 78 cents.

THE CLEARANCES.

	September. Barrels.	August. Barrels.
Bradford Oil Exchange	66,876,000	71,068,000
Oil City "	120,480,000	120,918,000
New York Consolidated Exchange	281,183,000	239,877,000
Pittsburgh Petroleum Exchange	61 284,000	55,936,000
Philadelphia Oil Exchange	28,3 8,000	18,265,000
Total	558,141,000	506,064,000

SUMMARY of the Statements of the National Transit Company for September and August, 1885:

	September. Barrels.	August. Barrels.
Receipts from all sources	1,531,468.94	1 499,836.29
Deliveries	1,915,613.79	1,844,807.94
Gross stocks end of month	36 392,822.97	36,870,483.10
Sediment and surplus	3,719 379.93	3,799,382.76
Total liabilities end of month	32,673,442.74	33,071,100.34
Outstanding exceptances	27,750,469.22	27,571,587.22
Credit balances	4 9:2,973.52	5,499,513 12

The above "Receipts from all sources" for September were made up as follows:

Runs from wells	1,511,954.34
Receive from other lines	19,514.60

SUMMARY of the Statement of the Tidewater Pipe Company, Limited, for September, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of September		1,352,046.03
Quantity of crude petroleum at close of Sept	1,474,302.93	
Less sediment and surplus	130,004.44	
		1,344,298.49
Receipts during September		191,887.73
Deliveries during September—to refiners	203,128.36	
" " " to other parties		203,128.36
Outstanding certificates accepted orders, etc.		828,000.00
Credit balances		516,298.49
Total liabilities September 30, 1885		1,344,298.49

AUGUST SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of August		1,351,854.23
Quantity of crude petroleum at close of Aug.	1,489,596 65	
Less sediment and surplus	137,550 02	
		1,352,046.03
Receipts during August		194,007.20
Deliveries during August—to refiners	192,407.09	
" " " to other parties		
		192,407.09
Outstanding certificates, accepted orders, etc.		830,000 00
Credit balances		522,046 03
Total liabilities, August 31, 1885		1,352,046·03

OIL REGION CHRONOLOGY.

FOR SEPTEMBER, 1885.

SEPT. 1. AGE oil report shows 286 wells completed in August, 40 of which are dry; new production, 3313 barrels; new rigs, 227; old rigs, 104; wells drilling, 314; total field operations, 645. Market somewhat weak until late in the afternoon, when New York begins to buy. Highest, 103; closes 102 5-8. Westerman well, near Millerstown doing six barrels an hour. Oil works of Syracuse Oil Co., at Geddes, N. Y., burned. Loss, $25,000. Boiler moved at Leidecker well, on Rough Run. Butler county, and owners will open at once. Dr. Heath's second wildcat, on lot 576, southwest of Clarendon, finds neither sand, gas or oil. Consolidation of the Westinghouse and Hostetter natural gas interests at Pittsburgh.

Sept. 2. Market opens at 102 3-4; breaks to 101 7-8 and rallies to 102 1-4. After 1 p. m. it breaks rapidly uuder news that Leidecker well, Butler county, was showing for a gusher. Lowest, 99 7-8; closes 100 1-4. Bailer fished out of Gordon well, Washington, at four o'clock, when a flow lasting twenty minutes ensued, which amounted to 18 barrels. Employes on Allegany Central R. R. (New York Oil Field) quit work and running trains are abandoned. They have had no pay in six months. Natural gas turned into a few stores at Franklin.

Sept. 3. Market advances under heavy buying by the Fishers at Pittsburgh. Opens at 100 1-4; advances steadily to 102 1-2, recedes to 101 3-4, and closes at 102 1-2 bid. Gordon well reported through sand, with no improvement. Made 12 barrels last 18 hours, and has not flowed since 12:30 p. m. Leidecker well puts on an oil-saver and makes large connections with a 250 barrel tank. Nesmith & Hertzel well on Whitman island, Kinzua village, down and dry. Good gas well reported at Mayville, N. Y. Case of Ex-State Treasurer Bailey against Huff & Ege's bondsmen, to recover $85,000 of the State's money loaned the Exchange Bank, Bradford, decided in favor of the defendents on a technicality; carried to higher court. Jacob Crispen, for 20 years a torpedo shooter, dies, after a brief illness. at Oil City. John Phillips seriously injured by the explosion of a rope socket he was burning out, at Guffey & Co.'s drilling well on the Hutchinson farm, near Cannonsburg, Washington county.

Sept. 4. Market rather quiet; opens and closes at 102 1-4. Gordon well makes a flow of 24 barrels when tools are pulled. Williams well, at Federal Creek, Ohio, reported good for 15 barrels, and afterwards said to be dry. Tank up at Leidecker well, and everything closely housed. George Isaman and Melvin Young instantly killed by lightning near Olean. An oil tank car on the West Penn road at Williams' Grove explodes, killing Thomas Ryan, a brakeman.

Sept. 5. Sentiment on floor of Bradford Exchange decidedly bearish, based upon news from Gordon well, which showed improvement, having make 60 barrels in the past 24 hours. Opens at 102 1-4, rises to 102 3-8, and drops rapidly to 100 3-4; reacts to 101 5-8, breaks to 100 3-4 and closes at 101. W. R. Black meets with an accident at Wilson & Black's sucker rod works, Tarport, and has to have left arm amputated. Straight Run well No. 2, Douthett farm, east of Thorn Creek, shot, without results.

Sept. 6. Sunday. Gordon well makes 78 barrels for 24 hours, ending at 5 p. m. Centennial well, at Millerstown, doing 175 barrels a day. Death of Alex McWilliams, owner of the McWilliams farm, Glade, in the Wardwell belt, aged 72 years.

Sept. 7. Market opens at 100 3-4 and closes at 101. Trade waiting, on results at Gordon and Leidecker wells. A still at Sodeman & Teague's new refinery, at Titusville, blows up; works partly consumed; loss, $3,000. Reports from Gordon well are of no flow until afternoon, when it threw out 18 barrels. Other dispatches record 61 barrels for 24 hours, ending at 10 a. m. Phillips Bros. complete a duster on the McCormick farm, Butler. Fire at Dean Oil Works, Cleveland; flaming oil runs down creek and into the Standard oil yards; 5000 barrels of oil burned; loss on works, $40,000. L. D. Mix's refinery, on Commercial street, destroyed same day; loss, $45,000; insurance, $12,500; Mix is the oldest refiner in Cleveland. Pew & Emerson well, on Gabbey farm, Washington, has hole full of oil.

Sept. 8. Market advances from 101 to 102 3-8 during first three minutes, on news that Gordon well had declined one-half in its out-put; reacts in the afternoon to 101 1-8 and closes at 101 5-8. Anchor Oil Co.'s No. 1, at Kinzua village, starts at 65 barrels. Explosion of natural gas at United States Hotel, Franklin; the pastry cook and the proprietor, Orrin Critchlow, severely but not seriously hurt. Gordon well makes 47 barrels in 6 hours, but had not flowed before for 18 hours; a 600 barrel tank is being erected.

Sept. 9. Market opens at 101 3-4; sags off slowly to 101 1-4; recovered to 101 5-8; breaks and closes weak with sales at 100 3-4. Apprehension of danger from Leidecker well, with bearish news from Gordon, combine to cause weaker feeling. Leidecker well passes under coutrol of M. K. McMullen, and Union Oil Company. Break discovered in the pipe line near Lancaster, Pa. Gordon well, for 24 hours ending at 1 p. m., made 150 barrels. Seven cars of oil have been shipped from this well to date. Death of Capt. M. H. Hughes, formerly of Franklin, a widely-known oil man, at Valparaiso, Neb. Centennial well, Ort farm, Butler county, made 172 barrels in 24 hours, ending this evening; flows through the tubing and casing.

Sept. 10. Market panicky on reports from Leidecker well. Opens at 100 1-4, breaks to 99 7-8, goes back to 100 1-4, then down to 98 7-8; stronger in the afternoon, closing at 100 1-4. Gordon well making 6 barrels an hour. Leidecker under control of the mystery gang, aud contradictory reports are afloat; said to have made one or two small flows; drilled three hours in the plugs; oil light amber, 54 to 56 gravity. S. R. Bruce well, on Nolan farm, southwest of Ort farm, six feet in sand with 800 feet of oil in the hole. Hackett & Shirley well, on 284, southwest of Tiona, showing for good producer; extends Tiona belt over a mile. Olean Glass Works sold to H. C. Blakeslee for $950.00; original cost, $7,060. Gordon well ships 242 barrels of oil by tank-car, for which 32 cents per barrel premium was received; up to date 724 barrels of oil have been shipped away from this well.

Sept. 11. Market firmer and steadier. Opens at 100 1-2 sells down to 100 1-4; rises to 101 1-4, and closes at 100 7-8. Gordon well makes 150 barrels in 24 hours, ending at noon. Leidecker well reported light; shut down at midnight; started drilling at 4 a.m., this morning; made several small flows and believed to be a very small affair. Sudden death of Walter Van Campen, at Corry, son of manager of Standard Oil Co., Corry. Mrs. Flora M. Ford, wife of Dr. Ford, dies at Dallas City from eating toadstools for mushrooms. Mrs. Margaret Ray, of Petrolia, robbed of $2,000 cash which she had secreted in a bureau.

Lockwood & Dickey well, Martinsburg, down and dry. The Vandergrifts purchase 300 acres in the vicinity of the Gordon well, Washington county.

Sept. 12. Market opens pretty firm at 101 5-8, and rises to 101 3-4—the highest point of the day; lowest, 101; closes firm at 101 1-4. Drilling suspended at Gordon well. It makes 85 barrels for 24 hours ending this morning. Leidecker well drills out plugs and goes three bits, with no improvement. Bruce well, one mile west of Ort farm, tubed and doing 20 barrels. John Clyde, of Parker, a brakeman on the B. N. Y. & P. R. R. killed at Olean. W. N. Riddle, the Pittsburgh, banker, discharged from past debts, by order of Judge Stowe.

Sept. 13. Sunday. George Canfield, aged 17, an employe of the Emery Oil Co., almost instantly killed near Toad Hollow, by the explosion of an empty glycerine can, at which he had been throwing stones. Break in Tidewater Pipe Line at Darby Creek, in Delaware county. About 10,000 barrels of oil lost.

Sept. 14. Little interest in petroleum market. Goes down all day, and closes at $100 1-4. Gordon well made 122 barrels for 38 hours, ending this morning at 10 o'clock. Leidecker well again drilling. Makes three flows to-day, producing in all about 30 barrels. Bradford exempt firemen depart for Harrisburg.

Sept. 15. Market opens at 100 1-8, goes down to 99 and closes weak at 99 3-8. Anchor Oil Company's No. 2, at Kinzua village, starts at 22 barrels an hour but falls off rapidly to 6 barrels, making an average of 12 barrels an hour, for six hours. Leidecker drilled all day without improvement. Westerman well, near Millerstown, down to 130 barrels a day. A twelve-year old son of Joe Hummel falls into a tank of oil at Cogley, and is drowned. Freight train on K. & E. R. R. jumps the track at Prentissvale, and blocks the road for five hours.

Sept. 16. Market steadier. First sales at 99, firms up and closes at 100 3-8. Gordon well doing 70 barrels a day, when agitated. Pew & Emerson well, on Gabby farm, Washington, said to have made several flows from the Gantz sand. Collision on Philadelphia & Reading R .R., near Tamanend, between two sections of a freight train, tanks of crude ignited by collision and destroy track a mile in length. About 50,000 gallons of crude oil destroyed. Loss, $50,000.

Sept. 17. Market opens somewhat firm at 100 1-4, and advances to 100 7-8 before noon. A steady decline then set in with light trading and at the close sales were made at 99 7-8. Gas well at Findlay, Ohio, reported flowing seven barrels of lubricating oil a day. Twelve wells at Kinzua village are producing about 300 barrels a day. Gailey Bros. No. 3, on Ferguson farm, near Rochester, Pa., down and dry. No. 1 still flowing 6 barrels.

Sept. 18. Market very dull all day. Opens at 99 7-8, advances to 100 1-8 and closes at 99 5-8, the lowest point. Gordon well reported holding to 90 barrels a day. Freight train on B., B. & K. R. R. jumps the track above Tarport and six cars go over the bank. No one injured.

Sept. 19. Market without interest. Fluctuations small. Closes at 99 7-8. Gordon well makes 88 barrels for 24 hours ending this morning. Production for the week 602 barrels.

Sept. 20. Sunday. Burning of United Pipe Line stable at Bradford. Four horses killed. Loss $2,000. No insurance. Supposed incendiarism. Fire at Franklin destroys five wooden buildings.

Sept. 21. Small movement upward in the market. Closes at 100 1-4. Councils pass ordinance giving J. H. Logan privilege to lay gas lines in the streets of Bradford, over the Mayor's veto. Perry Foraker severely injured by the bursting of a balance wheel at Hoffman's drilling well, on lot 77, near Clarendon.

Sept. 22. Market opens strong under prominent buying of Smith & Crosby. Closes weak at 100. A. G. Merrill, teller of the Warren Savings Bank, commits suicide by shooting himself through the head. Gordon well making 88 barrels a day. Tornado at Titusville creates a stampede among the audience at Barnum's show. Tent destroyed and about twenty people injured.

Sept. 23. Market opens with a stronger feeling manifest. Advances from 100 1-4 to 100 7-8 and closes at 100 3-4. Snow falls between Red Rock and Bell's camp, at Alton, and various points in the Allegany field. Installment of Knights Templar Commandery at Warren. Centennial well on Ort farm, Butler county, still flowing 144 barrels per diem.

Sept. 24. Market firm at opening. Goes up to 101 1-8 and closes at 100 1-2 bid in all the exchanges. Gordon well makes 82 barrels. John Callahan arrested at Franklin for driving a load of 1,200 pounds of nitro glycerine through the streets. Salary of clearing house manager at Oil City exchange fixed at $2,000. Goettel well, southwest of Speechley gas wells through sand. Dry and abandoned.

Sept. 25. Market opens at 100 1-2, highest 100 5-8, closed at 100 1-8. Nicholson well, on Shaffer farm, Cogley run, reported showing for 80 barrels. Johnson well, on Campbell farm, Rockland, reported through sand and dry. Kinzua village development doing 230 barrels a day. Anchor No. 2, on Morrison, is making 46 barrels. Dry holes are as numerous as the producing wells in this flashy territory. Borchert & Smith find a duster in between Anchor well and the Rollins farm producer. Rollins farm well still making 100 barrels a day.

Sept. 26. Market dull all day. Opened at 100, highest 100 1-2, closed at 00 1-4. Gordon well gauged 81 barrels. Hawley A. Sherman, son of J. W. Sherman, died of heart disease in a train at Erie. Four places burglarized at Tarport.

Sept. 27. Sunday. Rev. D. W. C. Huntingdon, pastor for last three years of the M. E. Church, of Bradford, preached his farewell sermon in the evening. Peter Carroll, a 14-year-old boy of Bradford, run over by Erie cars and lost a leg.

Sept. 28. Market sensitive. Opened at 100 1-8, highest 101, closed at 101. The advance monthly report rumored as very bearish, but heavy selling failed to depress the market below 100. Work begun on 35,000 iron tank by National Transit Company at Washington, Pa. The Gordon well gauged 75 barrels. Gantz No. 1 fishing for a bit and caving in, and drilling resumed at Willetts & Young well on Smith farm at 1,625 feet. Explosion at Acme refinery No. 3, at Titusville, caused a loss of nearly $1,000. Sir George Elliott, M. P., of London, England, visits Bradford.

Sept. 29. Market dull at the opening, which was 101 1-8, depressed to 100 5-8, then advanced to 102 3-8, until near the close when it broke suddenly to 101 1-8, on strength of New York selling. Tools reported stuck fast in Pew & Emerson well. The Gordon well did 75 barrels. Hess well, Cogley run, shot and showing light. The Fryburgh well completed in the Cogley sand and dry. Mike Quinn, the one-armed switchman at Titusville, had left leg taken off by cars.

Sept. 30. Market opens strong at 101 3-8, advanced to 101 3-4 but weakened at close to 100 7-8. Rope cut at Pew & Emerson well and fishing begun. Gordon well off to 60 barrels. M. K. Hotchkiss, latterly of Atlanta, Ga., and formerly a hotel-keeper at Olean and Jamestown, N. Y., died at Olean. Stephen V. Gretter and Elmer O. DeGolier appointed messengers at Bradford, under the "immediate delivery" system.

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	SEPTEMBER, 1885.	AUGUST, 1885.
National Transit Co	1,511,954 34	1,499,836.29
Tidewater	191,887.73	194.007 20
Octave Oil Co	3,697.44	2,977.36
Charley Run	178.50	108.00
Shaffer Run	624.50	600.00
Franklin (limited)	7,714.59	7,500.92
Pittsburgh Pipe Line	25,958.61	-------
Total	1,742,015.71	1,705,029.77
Daily average	58,067.19	55,000.96

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	SEPTEMBER, 1885.	AUGUST, 1885.
National Transit Co	1,915,613.97	1,844,807.94
Tidewater	203,128.36	192,407.09
Octave Oil Co	3 294.31	2,743 49
Charley Run	1,927.05	-------
Shaffer Run	2,175.58	2,103.00
Franklin (limited)	10,035.26	7,037.43
Total	2,136,174.53	2,049,098.95
Daily average shipments	71,205,81	66,099.97

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, September	13,138.62
Daily excess of shipments over runs, August	11,099.01
Daily excess of shipments over runs, July	5,959.01
Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762 92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	SEPTEMBER 30, 1885.	AUGUST 31, 1885.
National Transit Co	32,673,442.74	33,071,10 .34
Tidewater	1,344,298.49	1,352,046.03
Octave Oil Co	3,323.42	3,140.15
Charley Run	1,543 85	3,320.00
Shaffer Run	28,113.57	27,657 00
Franklin (limited)	37,215.66	39,536.33
Cranberry Pipe Line	-------	-------
Total	34,087,937.73	34,496,799 85

Stocks decreased September	408,862 12
Stocks decreased August	390,529 99
Stocks decreased July	215,947.71
Stocks decreased June	356,849 49
Stocks decreased May	565.252 48
Stocks decreased April	42,525 72
Stocks decreased March	248,900 89
Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780 27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552 87
Stocks decreased October, 1884	616 976.88
Stocks decreased September, 1884	345,281 52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.12
Stocks increased June, 1884	19 ,320.03
Stocks increased May, 1884	322,981 73
Stocks increased April, 1884	1,945,919 83
Stocks increased March, 1884	164.71 .39
Stocks increased February, 1884	206,984 61
Stocks increased January, 1884	119,365.56

	RECEIPTS.	DELIVERIES.
Daily average September	58,067	71,206
Daily average August	55,001	66,100
Daily average July	57,293	63,252
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,8 1
Daily average February,	54,976	67,667
Daily average January, 1885	53,290	58,183
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76.391
Daily average August	66,996	64,402
Daily average July	66,702	56,170
Daily average June	67,350	60,907
Daily average May	66.688	56,448
Daily average April	65 794	54,773
Daily average March	64,590	6 ,445
Daily average February	64,573	59,420
Daily average January, 1884	58,178	54,404

On the last day of September about 700 stoves were using gas at Franklin, and it is expected 1,000 will be using it by November 1st.

Colorado Oil Field.

David Kirk, Esq., President of the McCalmont Oil Company, has lately returned from Colorado, where he passed three months, to afford Mrs. Kirk an opportunity to improve her delicate health in that elevated and bracing atmosphere. While sojourning at Canon City Mr. Kirk visited the oil field which is located on the plains of Florence, ten miles southeast of Canon City, on the Denver & Rio Grande R. R. The four wells now producing are owned by three different companies, and have an aggregate production of ten barrels. They are situated on a stretch of ground about three miles in length and with its width undefined. One small well was drilled north of the better ones, but no dry holes have been found, and the extent of the territory is a matter of conjecture. The wells produce the maximum amount of oil when they are pumped by heads twice a day. When the walking-beam is kept constantly wagging the wells do not produce any more oil than when they are pumped by heads. The best well is owned by the Arkansas Valley Oil Company. It was placed on exhibition for Mr. Kirk's benefit and pumped five barrels per day. A well which has been shut down for a month or more will not produce any more oil when started up than it would if it had been worked steadily. For some unexplained reason the wells do not fill up. The oil comes from a shale rock about 1,200 feet below the surface. It is of a beautiful yellowish-green color, and about 30 gravity. Local representatives of the Standard Oil Company report that it will afford 40 per cent of illuminating and 12 per cent. of lubricating oil. The question of transportation is a perplexing one to the oil operator beyond the "Father of Waters." The oil produced must be taken to Pueblo, 40 miles away, before fair freight rates can be obtained through competing lines. Cleveland parties are now building a refinery at Canon City, which will bring the oil produced here in competition with that brought across the plains. Mr. Blake, who represents the Standard at Denver, is authority for the statement that the States and Territories of Colorado, New Mexico, Montana, Wyoming and Utah have a daily consumption of refined which is equivalent to 200 barrels of crude oil.

THE "Natural Gas Company" of Marietta, O., have leased a lot on Seventh street in that village, and contracted with Bradley & Lockwood to drill 2,000 feet for natural gas.

THE Washington County Natural Gas Company, owners of the old McGuigan well, have been paying dividends of 1 per cent a month on their capital stock. This company struck a strong gasser on September 22d at a depth of 220 feet on the Grounds farm, near Hickory, northeast of the McGuigan well.

PEW & EMERSON have recorded leases for 3,000 acres of territory for oil and gas purposes, in the townships of Franklin, Bell and Washington, in Westmoreland Co. The leases were all taken in the months of December, 1884 and January and February, 1885. The terms are $500 for every paying gas well completed.

VIVID descriptions are given of the great oil basins in Wyoming territory about to be developed. The productive region comprises 30,000 acres, and in one part resembles a lake covered with a crust of earth only a few feet thick. The property is in the hands of promoters formerly connected with unsuccessful Western mining companies.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., NOVEMBER, 1885. NO. 10.

THE PRODUCT AND EXHAUSTION OF THE Oil Regions of Pennsylvania and New York.

BY CHAS. A. ASHBURNER, M.S., GEOLOGIST IN CHARGE OF THE PENNSYLVANIA SURVEY.

Read before the American Institute of Mining Engineers at the Halifax Meeting, September, 1885.

THE Petroleum industry of western Pennsylvania and southwestern New York has been one of phenomenal development. Greater and more sudden fluctuations have occurred in the price* of crude oil, and in all the collateral interests, dependent upon its production than in the case of any other mineral product which has been extensively exploited in the United States. This was more particularly so from the commencement of drilling for oil in 1859 down to the end of 1877. The experience gained during these early years has enabled the oil men to operate more intelligently since; the business is not now attended with the hazardous risks with which it is generally credited.

The most important questions connected with the oil industry are those of (*a*) the oil-supply, and (*b*) the possible ultimate exhaustion of the field. Since 1876 my attention has been directed to the study of the statistics of the product of the oil regions. In January, 1880, in order te show some interesting points connected with these questions, I prepared a graphic chart which was used to illustrate a lecture on petroleum delivered before the Franklin Institute. This chart was afterwards reconstructed in two distinct forms for publication in the census report on *Petroleum and its Products*. These latter I have redrawn in a condensed form, and have extended them to include the statistics up to 1885, for publication in the *Transactions* of the Institute, in conjunction with a map of the oil-regions prepared by Mr. John F. Carll and myself. It is hoped that these illustrations will be found interesting to the members of the Institute, and of practical utility to oil-men without any extended discussion, since it is my desire to make only such brief references to them and give such additional detailed facts as may serve to make the prominent features understood.

For convenience of reference, during the past few years, the individual oil-pools of the region have been grouped under six prominent districts, as follows:

1. Allegany district includes the Richburg and several small outlying pools in Allegany county, N. Y. The area which has proved productive oil territory is 31 square miles,† of which the Richburg field embraces an area of 28 square miles.

The Allegany district up to January, 1885, produced 15,000,000 barrels, an average of about 419,000 barrels per square mile.

2. Bradford district embraces the oil pools in central and northern McKean county, Pa., and Southern Cattaraugus county, N. Y. The area of productive territory in this district is 133 square miles, 121 square miles of which is included within the Bradford field proper. The sand from which the oil in the Allegany and Bradford districts is obtained consists of a gray, black, dark-brown or chocolate-brown colored sand of about the coarseness of the ordinary beach-sand of the New Jersey coast.

The interval between the top of the oil-sand and the bottom of the Olean conglomerate (the bottom member of the Pottsville conglomerate, No XII., or Millstone grit), which is one of the most persistent and best recognized geological horizons in Western Pennsylvania, is, at Bradford, 1775 feet.

The oil obtained is dark amber-green and occasionally, black. Its gravity is generally slightly greater than that of the oil mostly obtained throughout the Venango and Butler districts, which is generally stated at about 48 degrees.

The Bradford district up to January, 1885, produced 109,000,000 barrels, an average of about 820,000 barrels per square mile.

3. The Warren district comprises the oil-pools in eastern Warren county and northeastern Forest county, Pa. The total area of the productive territory in this district is 35 square miles. The two largest pools are the Clarendon, in Warren county, which covers an area of about 14 square miles, and the Cooper and Sheffield, partly in Warren and partly in Forest, covering an area of 9 square miles.

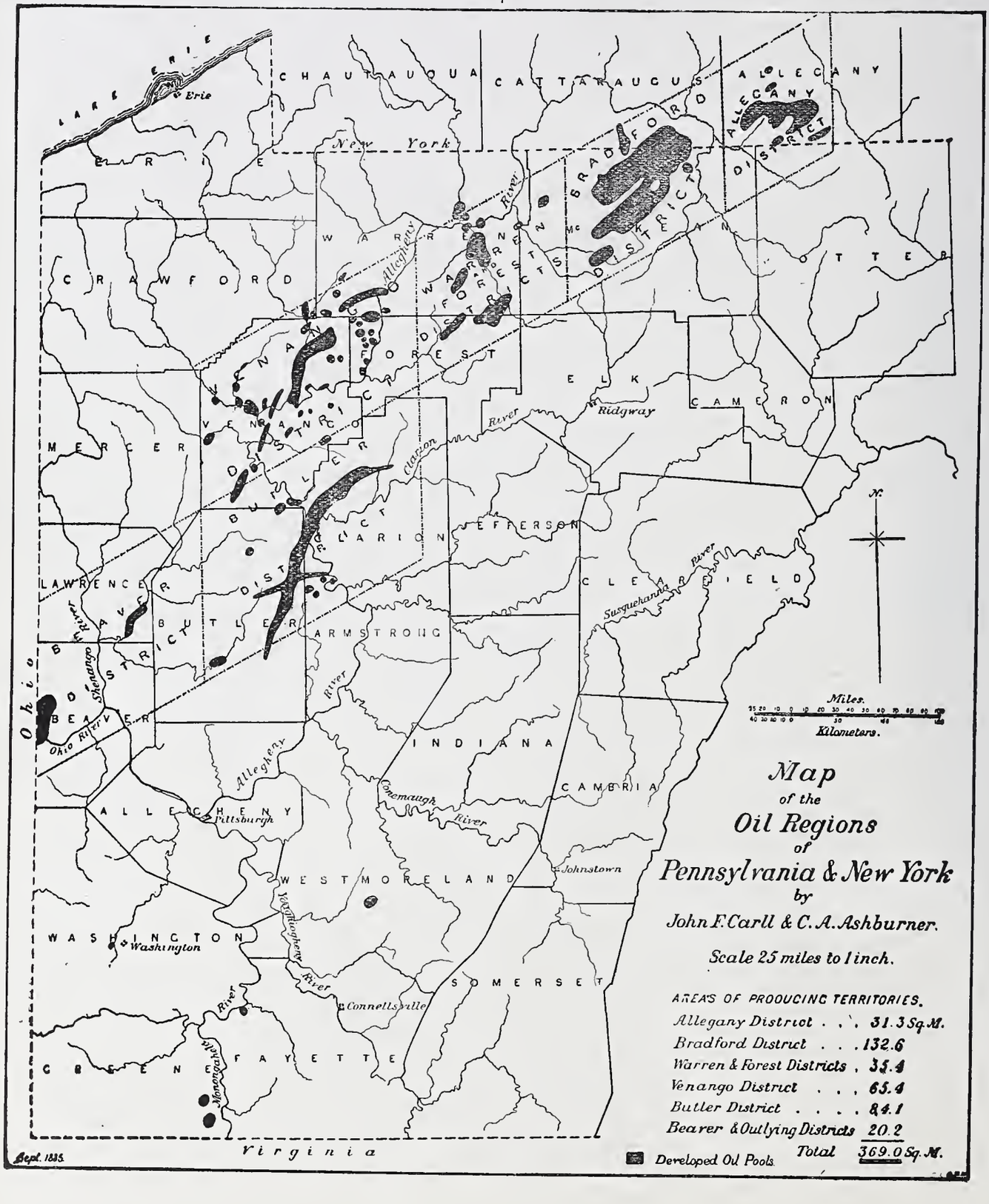
The oil in this district comes from sands of varying geological horizons, having somewhat the general appearance of the Bradford and Allegany sand, but frequently coarser-grained and sometimes containing small pebbles, which latter I have never known to have been found in the sands of the other two districts. According to Mr. Carll, the depths of the Warren district oil-sands below the Olean conglomerate are as follows: North Warren sand, 1100 feet; Warren third sand, 1300 feet; Clarendon third sand 1450 feet; Cherry Grove third sand, 1625 feet; and Cooper (Forest county) third sand, 1850 feet. The Cooper sand is supposed to occupy the same geological horizon as the Bradford and Allegany sand.

*The average price of crude oil for January, 1863, was ten cents a barrel. This was the lowest monthly average ever attained; the highest monthly average was $12.12½ per barrel for July, 1864. The lowest yearly average was 78⅞ cents for 1882, and the highest $9.87½ for 1864. The average price of the entire product to January, 1885 (260,990,435 barrels), has been $1.63¼. A barrel of petroleum is always considered to contain forty-two gallons.

†The territories of which the areas are given here were defined by arbitrary lines, drawn to include all the surface where producing wells have been obtained or which was known, from actual drilling up to January, 1885, to be underlaid with oil. All the individual pools are shown on the accompanying map; the areas of some of them have been slightly exaggerated in order that they might be observed on a scale of twenty-five miles to one inch. A map on a scale of six miles to one inch, showing, with approximate exactness the areas of the pools, will appear in the annual report for 1885 of the Second Geological Survey of Pennsylvania. The total area of all the productive oil territory in Pennsylvania prior to 1885 was 369 square miles.

The Allegany, Bradford, and Warren district sands I believe to be of Chemung (Devonian) age. The oils from the different Warren pools vary greatly in color and gravity; but they are generally spoken of as amber oils. The Warren district, up to January, 1885, produced 12,000,000 barrels, an average of about 343,000 barrels per square mile.

4. The Venango district, which was the scene of all the earlier oil developments, includes 40 distinct and well-recognized oil pools, the total area of which is 65 square miles, the largest pool being that lying between Oil City on the south and Pleasantville on the north, covering an area of 28 square miles. No one of the other pools exceeds an area of five square miles, which is about the productive territory covered by the Tidioute and Triumph pool in southwestern Warren county, and the Franklin pool in western Venango county. The oil of this district is obtained from three principal sand-beds, known respectively as the first, second and third oil sands, contained within an interval of 350 feet. The first sand, which is the uppermost one of the three, lies about 450 feet below the base of the Olean conglomerate. The Venango sands I believe to belong to the Catskill (Devonian) formation No. IX. These oil sands were the first discovered in Pennsylvania; and drillers from this field, operating in other districts, have designated the sands



which were found in the new districts as the first, second and third sands, irrespective of their relative geological position. The Venango sands generally, consist of a white, gray or yellow pebble-rock. The pebbles are water-worn, are sometimes as large as hazelnuts, and are loosely cemented together, and generally bedded in fine sand. The sand in this district has not as regular or as homogeneous a character, over extended areas, as in the Bradford and Allegany fields, where the sands are phenomenal in this respect; consequently, the risk of obtaining dry holes and wells of variable production in the Venango district has always been greater than in the Bradford and Allegany. The oils are generally green, frequently black, and in some instances amber. The gravity varies from 30 to 51 degrees, 48 degrees being about the average gravity of the oil obtained from the third sand, which is the greatest producer. The Venango district up to January, 1885, has produced about 55,0 00, 000* barrels, an average of about 846,000 barrels per square mile.

5. The Butler district has been made to include the oil-pools in Butler and Clarion counties and southeastern Venango county. The total area of the oil-pools is 84 square miles, of which at least 76 square miles are embraced in the Clarion, Butler and Armstrong field, and the Butler cross-belt. The oil in this district comes from the same group of oil-sands as in the Venango district. Certain splits occur in the sands, however, which have not been discovered in the Venango district. The character of the sands and the oils which they produce vary much the same as in the Venango district, the individual oil or sand in one district having a counterpart in the other district. The Butler district, up to January, 1885, produced about 69,000,000 barrels, an average of about 821,000 barrels per square mile.

6. The Beaver district includes the two principal oil-pools known as Slippery Rock and Smith's Ferry. The former pool and that portion of the latter east of the Pennsylvania State line cover an area of about 16 square miles; the area of the Slippery Rock pool being about one-fourth that of the Pennsylvania portion of the Smith's Ferry pool. In both of these pools heavy oil is obtained from the representative of the Pottsville conglomerate, No. XII, and amber oil from the Berea grit in the Sub-carboniferous series. The production of oil in this district up to January, 1885, was about 1,000,000 barrels, an average of 62,000 barrels per square mile.

Outside of the limits of these districts a small amount of oil has been found in isolated pools to the south and southeast of the Beaver and Butler districts; at Mt. Nebo, in the vicinity of Pittsburgh; in the vicinity of Pleasant Unity, Westmoreland county; near the mouth of Dunlap Creek, in Fayette county; along Whiteley Creek, west of Mapleton, and along Dunkard Creek north of Fairview, both in Greene county; and in the vicinity of Washington, in Washington county.

That the general boundaries of the oil-regions of Pennsylvania are now well established, there is but little doubt; and that all the sands in which oil will ever be found in paying quantities are known and have been drilled through at different localities in the oil regions seems quite certain, so that we can have no reasonable expectation that any new and extensive field will be found which could compare in area or in the amount of oil to be obtained from it with the Butler, Clarion, and Armstrong pool, the Oil City and Pleasantville pool, the great Bradford pool, or the Allegany pool. Prof. Lesley, in speaking of this subject in January, 1883, says: "It is certain that petroleum is not now being produced in Devonian rocks by distillation or otherwise. What has been stored up can be got out. When the reservoirs are exhausted, there will be an end of it. The discovery of a few more pools of two or three million barrels each can make little difference in the general result." Mr. Carll, in June of the same year, writes: "There are not at present any reasonable grounds for anticipating the discovery of new fields which will add enough to the declining products of the old, to enable the output to keep pace with the shipments or consumption." These results, foreshadowed by Prof. Lesley and Mr. Carll, were not generally appreciated until the latter part of 1883.

The irregular, but in the long run steady decline in the daily production of petroleum from July, 1882, when the maximum average daily production for any one month was attained (105,102 barrels), is now generally realized. The production for any one month, or any one year may be increased very materially, over what it is at present, by renewed activity in drilling wells within the general confines of the oil region, or by working over old territory under the stimulation of a hungry market and high prices; but such an increase in production can only be of limited duration, since there is nothing to hope for during a decade of years but a progressive decline. In 1884, the total production of the region was 22,732,209 barrels, which was nearly 1,000,000 bbls. less than the shipments; during the first eight months of the present year the production has fallen 2,022,355 barrels within the shipments. At the end of August, 1884, the maximum of stocks ever held in the oil regions was attained (39,084,561 barrels); two weeks ago (September 1, 1885), the stocks had declined to 35,343,771 barrels.

It is estimated that in July, 1883, there were in the region, 17,100 producing wells, the average daily product of which was 3.8 barrels. In July, 1884, there were 21,844 producing wells, and the average daily product was 3 barrels; and in July of this year it is estimated that there were 22,524 producing wells, the average daily product being 2.5 barrels.

A defined territory, a product inadequate to meet the demand of the market for the past eighteen months, a growing market and rapidly-diminishing stocks; an increasing number of drilling and producing wells, and a rapidly falling daily average product per well, are all significant signs of a certain deline in a great industry; and yet the average price of crude oil per barrel for the month of July, 1885 (92½ cents), was 13¼ cents less than the average price for the entire year of 1883, and only 9 cents more than the average price for 1884. In the month of August, 1885, the average price per barrel had risen to $1.00¼. Although this is a great advance over the price for the preceding months of the year (January $0.70⅞, February $0.72⅜, March $0.80⅜, April $0.78½,

*The Venango district, up to June, 1882, produced an aggregate of 53,569,000 barrels. Since that date the reported production of this district has been included in that of the Butler and Beaver districts, so that the estimated aggregate product of the Venango, the Butler, and the Beaver districts respectively, to 1885, is only approximate, although the total product of the three districts, composing what is now known as the Lower Field, has been obtained from actual reports. Mr. Carll has prepared a "Statistical Chart of the Oil Production in Pennsylvania and New York from 1859 to 1882," which is published in the "Survey Report on Warren County." The statistics contained on Mr. Carll's chart have been collected by him from various sources; I believe them to be more accurate in detail than any which have ever been published.

May, $0.79, June $0.82), yet it is not as great as might be reasonbly expected in view of the conditions of the petroleum industry referred to.

At the Washington meeting of the Institute, held in February, 1882, the late Henry E. Wrigley read a paper on the amount of oil remaining in Pennsylvania and New York (*Transactions* X, 354). in which he gave the area of the oil-territory, the amount of oil produced per square mile, and estimates of the amount of territory yet to be drilled over, and of the quantity of oil which could be expected. I do not wish to make special criticism of Mr. Wrigley's statements or conclusions, but merely to say that facts did not sustain his statements, and I never accepted his conclusions. The mystery with which the operations in the oil regions have been conducted during the last ten years, makes it extremely difficult to gather authentic particulars from the drillers or producers; and if it were not for the valuable services which Mr. Carll has rendered, as far as the records of oil wells and the geology of the region is concerned, and that which has been rendered by Mr. Stowell in the collection and publication of statistics, it would be impossible, even now, to arrive at any conclusions bearing on the questions to which I have presumed to make brief reference in this paper.

The geologists of the Pennsylvania Survey, and a few of the oil operators who have given the subject a careful consideration, are united in believing that the general confines of the territory are defined, and it is admitted that it is in vain to drill wells, as has been done during the past year in Lycoming and Chester counties, where none of the conditions under which oil has been obtained in Pennsylvania are to be found. The fact must not be lost sight of, however, that some of the individual oil-sands have been explored within limited areas only of the oil region proper. For instance, the Bradford sand, which has been found so prolific in the Allegany and Bradford districts over an extent of territory 42 miles in length, and in places 15 miles in breadth, owing to its great depth below the surface, and the procurement of oil at higher horizons, has not been thoroughly explored in districts to the southwest, although this is the producing sand in the Cooper pool, and in several instances wells have pierced its horizon.

In February, 1878, in a paper which I read before the Engineers' Club of Philadelphia, on the oil sands of Pennsylvania, I referred to the discovery of the Smethport oil-sand in McKean county, about 360 feet below the bottom of the Bradford oil-sand. What the possibilities of obtaining oil at this horizon anywhere in the oil region are, it is impossible at present to state. The horizon of this sand has been pierced by several wells, and a small show of oil has been found; but additional wells drilled for exploring this sand may prove complete failures. It is a noted fact that no two oil-sands, one immediately above the other, have been great producers over the same extended area. I have called attention to these facts as those which may influence the extent of the production of oil in Pennsylvania and New York in the future.

In 1882 Mr. Wrigley stated that the total production to the commencement of that year had been 154,000,000 barrels, and that but 96,000,000 barrels of oil remained to be got. Up to the commencement of the present year the total product of the oil regions was 261,000,000 barrels. That the product has passed its meridian there is no question, but what the total aggregate for the future will be, it would be folly to estimate. That the product per well will be less, and the cost of producing one barrel much more than in the past, experience would seem to prove. These, with other collateral facts connected with the production, manufacture, and consumption of the product will make the exhaustion of the field a gradual one; and it is probable that long before every barrel of oil shall have been taken out of the oil-sands, the cost of production per barrel will be so great, that the oil-men's occupation in Pennsylvania and New York will be gone. It is hardly probable that the Japanese practice of excavating a vertical shaft 600 feet in depth to obtain a few gallons of oil a day will ever prove a profitable enterprise in America.

Crude Market for October.

The past month has witnessed a gratifying advance in the market. Crude certificates have at length got so far beyond the dollar point that more confidence has been shown in the higher values. The horde of panicky operators that is always ready to sell, on the first indication of a weakness, has followed up the advance with little profit to itself. There still remains an element of uncertainty in the Washington county wells, which, as soon as their fate is settled, will exercise a marked influence in the market. A great deal of bear talk is to be heard on all sides, but the apparently impregnable statistical position of crude has not been changed by any new developments during the month recently closed.

The usual amount of rumors have been floated about, in order to create a weak feeling on the part of the small holders of crude certificates, but they have been of little avail in checking an active and buoyant market.

The price of crude did not drop to the dollar point during October. Opening at 101 to 101¼, prices ranged within narrow bounds until nearly half the month had gone by. On the 15th and 16th prices began to firm up from 101⅞ and on the 20th had touched 112½ at Oil City and New York and 112⅝ at Bradford. About the same figures were realized the following day, and 112 was again reached on the 28th. These were the highest figures for the month. Afterwards oil sold down as low as 107½ at Oil City and New York, but the month closed firm at 111⅜ to ½. The lowest price for the entire month was touched on the 2d and 3d when a few sales were made at from 100⅛ to ¼.

The range of prices for October was 12½ cents as compared with 4¼ cents in September, 7¼ cents in August, 13⅛ cents in July, 18 cents in June, 4¾ cents in May, 4⅜ cents in April and 8 cents in March. The average price for the month on the floor of the Bradford Exchange was 105½ against 100¾ in September, 100⅜ in August, 96⅜ in July, 82¼ in June, 79⅝ in May and 78⅞ in April. The average price for October, one year ago, was 71 cents.

THE CLEARANCES.

	October. Barrels.	September. Barrels.
Bradford Oil Exchange	66,246,000	66,876,000
Oil City "	131,730,000	120,480,000
New York Consolidated Exchange	422,586,000	281,183,000
Pittsburgh Petroleum Exchange	90,658,000	61,284,000
Philadelphia Oil Exchange	31,345,000	28,318,000
Total	741,965,000	558,141,000

BIDS were opened at the Treasury Department, Washington, D. C., on the 5th inst., for supplying 257,700 gallons of mineral and lard oils for the use of the Lighthouse Service. The lowest bidders were Lombard, Ayres & Co., the New York Refining Company, the Bear Creek Refining Company, and A. K. Fairbank & Co., and contracts will be made with them.

OIL REGION CHRONOLOGY.

FOR OCTOBER, 1885.

OCT. 1. AGE oil report shows 357 wells completed in September, 43 of which are dry; new production 4,678 barrels; new rigs, 314; old rigs, 99; wells drilling, 399; total field operations for September, 812; increase over August, 167. Market quiet. Closes at lowest point of the day, 100 ⅝. Immediate delivery system inaugurated at the Bradford and Oil City postoffices. Anchor No. 3, on Morrison, Kinzua Village, in sand and makes one flow. Short & Co.'s well, on L. P. Daubenspeck, Hooks City, tubed and showing for 100 barrels. Armstrong well at Parnassus station, Butler county, abandoned at 2,400 feet. Peter Ribold a prominent oil man of Butler county, killed near Ribold station by the cars of P. & W. railroad. While walking along the railroad from one of his wells to his house, his foot became fastened and unable to extricate it, he was mangled by an approaching train.

Oct. 2. Market opens at 100 3-4; highest 101 3-8; closes weak at 100 3-8. Failure of Heath & Co. a Wall street firm exercises a slight influence on values. Knoblauch & Co., of New York, reported to have bought in 750,000 barrels of oil. Thorn creek production about 2,100 barrels a day.

Oct. 3. Oil market quiet; highest 100 5-8, lowest 100¼ Koch Oil Co.'s No. 1, on the Hensel farm south of Sheffler farm producer, Cogley, showing for 125 barrels. Dale Bros. well on the Hetzler farm, Red Valley, Venango county, starts at 100 barrels. Anchor, No. 3, on Morrison, Kinzua Village, producing 135 barrels a day. Sucker rods put in Gordon well and at noon it begins pumping salt water.

Oct. 4. Sunday.

Oct. 5. Market opens at 100 3-8 and closes at 101. Gordon well, Washington county, begins pumping oil at 11 a. m. and pumps about 5 barrels an hour. Five wells drilling and two rigs under way in Green county. One well completed which pumps seven barrels a day.

Oct. 6. Market dull. Highest 101 3-8; closes at 101. Gordon well pumps 130 barrels first 24 hours after rods are in. Gabby well still fishing. Death of William Beardsley, at Limestone, one of the pioneers of the Tuna Valley.

Oct. 7. Little doing in market. Opens and closes at 101. Armstrong & Boyd or Harley & Jack well on Milligan farm, between Cogley and Red Valley, down and dry. Phillips Bros. well on the Emerick farm, Butler, in sand with no oil. Barnsdall Bros. well on lot 738, Cherry Grove, Warren county, on a supposed extension of the Balltown field through sand and dry, A majority of the Pittsburgh Exchange attend the opening of the Davis Island Dam.

Oct. 8. Market advances to 102 1-2 and closes at 101 3-4. Gordon well pumps 113 barrels for 24 hours ending at noon to-day. Curry well on McClintock farm near Emlenton, showing for 15 barrel pumper and causes some excitement in that vicinity. Rigney & Co.'s well on Schultz farm, Butler county, through fourth sand and dry. H. B. Plummer, of Franklin, formerly of Galena Oil Works is appointed by President Cleveland, surveyor of the port at Philadelphia. Leidecker well reported 1666 feet deep and no good.

Oct. 9. Market opens at 102 and gradually declines to 101 1-4 where it closes with a week feeling prevailing. Old Gantz well caves burying tools in the bottom. Drilling begins at Thayer well on the Clark farm and at the Gordon No. 2. Mt. Nebo well effectually plugged and producing no oil. The Frederick well in this locality is down 850 feet. Main pipe of the Oil City Fuel Supply Co. connected with the Titusville mains. Well drilling for gas at Marrietta, Ohio, down 1845 feet and is a failure. Wolfe & Kugler well, Slicker farm, Cogley, down and dry.

Oct. 10. Market dull and sluggish. Closes at 101 1-8. Gordon well production 116 barrels. Connors & Fishell No. 2, on Daubenspeck farm, Martinsburg, Butler county, starts at 80 barrels. Death of Henry L. Westeman, president of the Centennial Oil Co. and German National Bank at Millerstown, aged 61 years. Cogley Run production 4530 barrels. Geo. Natcher sentenced to seven years and six months, for murder of Bob Lane, at Bradord, May 20.

Oct. 11. Sunday.

Oct. 12. Quiet market. Closes at 101 1-8 bid in all Exchanges. Gordon well holding its production. Tools are out of the Gabby well and drilling is resumed. Large well reported to have been struck at Findlay, O., considerable excitement prevails Citizens well at Lima, O., reported making 50 barrels lubricating oil daily.

Oct. 13. Market opens with sales at 101 1-8 breaks to 100 5-8 and closes at 100 3-4 bid. Duncan & Lowentritt well on Jolly farm, Red Valley, showing for 75 to 100 barrels. Swift & Phillips well, Swift farm, Kinzua Village down and dry. Boston Buck and his gang of Clarion county counterfeiters captured by U. S. secret service officers.

Oct. 14. Market opened with sales at 100 7-8 and fell off to 100 5-8 and then advanced, touching 102 1-4 shortly after 11 a. m. Remained about 102 until near the close, when it broke to 101 3-8 and closed steady at 101 1-2 bid. Carrying rates 55 to 60 cts. Gordon well pumps 119 barrels past 24 hours. Tools stuck again at the Gabby.

Oct. 15. Market active under large buying by New York. Goes up to 103 and closes at 102 7-8. Rumors afloat of a deal between the Standard and Independent refiners, which is to result in advancing the price of refined and removing the premium on lower and middle field crude. Gordon well produces 123 barrels of oil for 24 hours ending at noon. Peoples Light and Heat Co. have received thus far $4,500 for oil produced by the Gordon well, which was struck August 22. Red Valley district, Venango county, producing about 300 barrels a day from nine wells. Natural gas struck at a depth of 560 feet at Massilon, Ohio.

Oct. 16. Market opened with sales at 103, falls off to 102 3-4, advances to 104 1-4, recedes to 103 3-4. In the last hour, amid great excitement jumps to 105 1-4, falls off to 104 1-2, advances to 105 7-8 and in the last two minutes goes to 106 7-8, at which price it closes. Tools still at the bottom of the Gantz, Gabby and Wilson wells, Little Washington. Gordon well makes 116 barrels. Rochester & Pittsburgh R. R. sold to Adrian Iselin, in the interest of the bondholders for $1,100,000, under decree of the Supreme Court at Rochester. Suicide of John F. McIntyre at Farmer's hotel, Tarport. He was 41 years old. F. J. Alsworth, a tool dresser on Lovell & Rathburn's well on the J. Deitrich farm, Cogley, had his leg broken while changing bits

Oct. 17. First sales at 108, falls back to 107 3-4 and advances under heavy trading to 110 1-4, falls off to 108 3-8, rallies to 109 3-8 and breaks to 106 7-8. When bell rang for closing 107 was freely bid. Carrying rates 90 cts. to 1.00 per 1000 in New York, Bradford flat, Oil City 40 to 50 cts. Pittsburgh flat to 40 cts. Gordon well

has shipped 3239 barrels of oil to date. Production past 24 hours 115 barrels.

Oct. 18. Sunday.

Oct. 19. Market strong, opening at 107 3-8, advances to 109 3-8. Closes at 108 1-4. Carrying rates Oil City, 40c. to flat, New York, 70c.; Pittsburgh, 50c.; Bradford, flat. Book & Gartlan well on lot 754, northeast of Balltown, a failure. Boiler explodes at a well drilling for natural gas on the C. C. Moyer lot in Greenville, and kills Henry Foust, and severely injures Samuel Hamor and Andy Heilig.

Oct. 20. Market very firm, opens at 110, goes to 110 3-4, recedes to 109 1-2 several times and then advanced to 112 5-8, closing at 112 1-8. Carrying rates at the close, Oil City, 50c.; New York, 75c. to 2.00; Pittsburgh, 40 to 50c.; Bradford, flat. John Costello, an employe of the Pennsylvania Gas Co. drowned in the Conewango creek at Warren.

Oct. 21. Market opens a cent below last night's closing price and breaks to 110 1-4, recovers before noon to 112 3-8. Closes at 111. Carrying at close, Oil City, Bradford and Pittsburgh, 50c.; New York, 80c. per 1000 barrels. Three dusters reported in the St. Joe district, Butler county. Hite & Co. on the Kirch, Christie Bros. on the Nottingham and Bradley & Co. on the Oswald farm.

Oct. 22. Market somewhat quieter. Opens at 110 7-8, rises to 111 1-4, breaks to 110 1-4, rallies to 111 3-8. In the afternoon breaks under New York selling to 109 5-8, braces up to 110 and closes at 109 3-4. Gordon well drops to 106 barrels.

Oct. 23. Market makes slight break, sells down to 108 7-8 and closes at 109. No change in the Gordon production. Meyers & Guffy well, Willow Tree, Green county, down and dry. Clark, Foster & Co. strike a well that starts at 50 barrels on lot 591, Warren county.

Oct. 24. Market quiet. Opens and closes at 109. Carrying rates, Bradford, 50 to 60c.; Oil City, 45c.; New York, 70 to 80c.; Pittsburgh, 55c. N. F. Clark's No. 7, on Crisman lands, warrant 3195, Forrest county n. e. of Balltown pool, showing for 200 barrels. John Mountain shot by colored Mrs. Collins at Fern City, while attempting to force his way into her house.

Oct. 25. Sunday. Production of Gordon well drops to 94 barrels. Wentling & Mull well at Red Valley showing large. Flynn & Co.'s No. 2, same locality, is light.

Oct. 26. Market displaying some weakness. Opens at 109 1-2, highest 110, closes at 108 3-8. Gordon makes 102 barrels past 24 hours. Captain Henry H. Herbst, at one time sheriff of Venango county, and one of the founders of the Oil City *Derrick*, died at Jamestown aged 49 years. Attempted incendiarism at the lumber warehouse of Phillips & Porter, Oil City. Case of Milton Weston, the Chicago capitalist, one of the Murraysville rioters, passed for the present by the court at Pittsburgh. Argument called in the Bowser case and a *non-pross* ordered to be entered.

Oct. 27. Market very lively. At the opening sales were made at 108 1-8, from which prices rallied to 108 1-2. After 11 o'clock under strong New York selling the market broke in Bradford to 107 5-8 and in New York to 107 1-2. Up to 1 o'clock values vibrated between 107 3-4 and 108, but then hardened gradually and in the last hour made a clean skip to 110 5-8, closing at 110 3-8 bid. Carrying rates, Bradford, 65c. In New York 85c., in Oil City, 45c. and in Pittsburgh 55c. per 1000 barrels. Wentling & Mull on Jolly farm, Red Valley, reported good for 140 barrels.

Oct. 28. Active market. First sales at 110 and 110 1-8. Under heavy selling sags off to 109 1-8. Toward one o'clock it advanced rapidly and caused considerable excitement, touching at 112. In the last hour there were numerous breaks with partial recoveries. Lowest 110 1-4. Closes with 110 3-8 freely bid. Fisher Oil Co.'s well 500 feet north of good wells at Red Valley, through sand and dry. W. B. Roberts & Windsor well No. 2, on 3561 Forest county, shot with 20 quarts, and said to have started at 20 barrels.

Oct. 29. Market weaker. Tedcastle reported a big seller. Opening at 110 1-8 the market advanced early in the session to 110 1-2, breaking off to 110 1-4 and at noon advancing to 110 7-8. From this point values relapsed to 110 3-8, rallied under apparently good buying to 110 7-8 and broke in the last hour to 109 5-8. At the close 109 7-8 was freely bid and scattering sales were made at 110. Natural gas from McKean county, lot 213, turned into the mains at Jamestown, N. Y., 30 miles away. John Joyce, a U. P. L. telegraph line repairer, had a narrow escape from death, while attempting to separate two crossed wires on the top of the telephone exchange. Current from a powerful dynamo engine was diverted through his body by his accidental clasping a wire in each hand and establishing a connection. A hundred barrel well reported from Bear Run, near Newport, Ohio. Windsor & Roberts well much smaller than was anticipated. In the suit of Buffalo Lubricating Oil Co. against the Standard, Judge Childs denies the defendant's motion for a stay of proceedings on demurrers.

Oct. 30. Market quiet and apathetic. Opens weak at 109 7-8, touching 110 1-2 before noon, closing at 110 1-4. After the closing bids on the curb were made at at 111. Carrying rates, Bradford, 60 to 65; New York, 55; Oil City, 45 to 50 and Pittsburgh 55c. Drop in carrying price at New York, said to show an increased short interest. Gabby well still 25 feet from the Gordon sand and progressing very slowly. Gordon well produced 98 barrels. Jamestown Oil Exchange decides to disband.

Oct. 31. Market firm and steady. Opens at 110 7-8, which is lowest point. Highest 111 3-4, closes at 111 1-2. Carrying, Oil City and Pittsburgh 55c.; New York 75 and Bradford, 70c.

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

MONTH.	1879	1880	1881	1882	1883	1884	1885
January	.....	110 1-5	95	83	92¾	111⅓	70¾
February	.....	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅛	80¾
April	78⅜	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85½	79⅝
June	68⅜	100¼	81	54½	117¼	68¾	82¼
July	69⅞	101¼	76⅛	57⅝	108	63½	96¾
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	100⅜
September	69¼	95½	92¼	71⅓	112½	78	100¾
October	88¼	96¾	92¾	93⅝	111⅛	71	105½
November	105⅜	91¼	82⅓	114¾	114 4-5	72½	
December	113¼	92⅜	83¾	95¼	114⅓	74⅜	

A NEW oil company is now organizing at Allegheny, to operate near Wexford. The field consists of a tract of 500 acres situated in Pine, Richland, McCandless, and Hampton townships. The property lies along Pine Creek, and the Pittsburgh & Western Railroad runs near the eastern end of it. The field is on a direct line between the Mount Nebo well and the Bald Ridge and Butler districts. The men at the head of the company are George Stewart, G. M. Shaff and A. Taggart.

HON. ROBERT H. ROSE.

In the Hon. Robert H. Rose, McKean's present representative in the Assembly, the oil men find a legislator thoroughly versant with the oil business, and a man fitted by training and education to guard their interests in the halls of legislation. Mr. Rose is still a man young in years if not in a varied and valuable experience in the affairs of life. His father, Dr. Robert H. Rose, came from Philadelphia in 1808 to Silver Lake, Susquehanna county, and took charge of the Bingham lands, extending through the northern tier of counties of the State. In the year 1809 Dr. Rose purchased 100,000 acres of land in Susquehanna county, of the widow of Tench Francis. The purchase covered a tract extending thirteen miles along the State line, and comprised nearly one-fourth of the county.

At Silver Lake, Robert H. Rose, the subject of this sketch, was born on the 7th of December, 1847. While his son was still very young Dr. Rose moved to Montrose, the county seat of Susquehanna county. Mr. Rose took advantage of the educational facilities offered by the village of his boyhood, and after graduating from the Montrose academy in 1862, went to Homer, N. Y., where he completed a four years' course in a school of excellent standing, graduating in 1866. Having a strong inclination for the law, he became a studeut in the law office of Hon. L. F. Fitch, and was admitted to the bar of Susquehanna county in 1873. He came to McKean county in the same year, and located at Smethport, where he began the practice of law and also acted as local agent for the Bingham estate. In 1878 the law firm of Sterrett, Brown & Rose was formed, with offices at Bradford and Smethport. After a year or so Mr. Brown retired and the firm of Sterrett & Rose continues one of the most successful law firms in the county. In 1879 Mr. Rose was admitted to practice in the Supreme Court of the State and the United States District and Circuit Courts. In 1879 he made his first venture in the producing business with several personal friends of Smethport. Since that time he has operated successfully and extensively in the Allegany and McKean fields with J. H. Markham, C. P. Byron, Hon. Henry Hamlin and others. He views the oil business from the practical stand-point of a producer, and has a direct personal interest in the welfare of the producing fraternity.

In 1877 he married the eldest daughter of Hon. Henry Hamlin, of Smethport, and by the silken cord of a matrimonial tie his life became interwoven with one of the first and oldest families in McKean county. Mr. Rose is a man whose integrity is as rugged as the hills which he perforates for oil. He is an educated gentleman, and is capable and free to discuss any and all questions which concern the well being of his constituents. In these degenerate days when political bosses and tricksters push deserving and more modest men aside, it is pleasing to see a young man like Mr. Rose in a position which a good record and an honorable and upright life merits.

THE gross earnings of the Buffalo, New York & Philadelphia for September were $238,398, an increase of $14,529 over the corresponding period of last year. The operating expenses for the same month were $146,588 a decrease of $5,597 from last year.

THE survey for the new Independent Pipe Line, which will run from the Franklin oil-field, to New Castle Junction, was completed November 3rd. The organizers of the new line are Messrs J. H. Rossiter, of New York, and William Smith, of New Castle Junction. The line will tap the Franklin field, and will pass directly through the Bald Ridge field, where the Phillips gusher was struck not long since. The line will be 86 miles long, and will be finished by January, 1886. Bids are now being received for the necessary pipe, which will be of wrought-iron, six inches in diameter.

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO OCTOBER 31, 1885.

1882.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge Bbls.
May	6,765	-----	------	6,765	218
June	91,102	------	------	91,102	3,035
July	268,294	------	------	268,294	8,655
August	753,752	------	------	753,752	24,317
September	690,072	------	------	690,072	23,002
October	290,246	3,712	------	293,958	9,483
November	146 587	8,810	------	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217.408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8,376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,253	96,024	111,700	256,077	8,536
October	40,677	102,748	133,248	276,673	8,925
November	32,711	97,546	114 233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87.193	261,784	8,445
April	31,191	226,860	71,989	230,040	7,668
May	30,010	107.514	70,069	207,593	6,696
June	25,348	89.554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
September	19,590	64,648	63,453	147,691	4,923
October	13,824	56,151	55,211	125.186	4,038
November	12 689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25.469	62,262	2,224
March	11,558	25,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71,216	2,297
June	13,181	29,998	31,340	74 519	2.484
July	14,478	28,095	31,990	74,563	2,405
August	11,247	28,603	28,828	68,678	2,216
September	9,367	27,531	28,315	65,213	2,174
October	13,269	24,104	28,677	66,050	2,131
Total Oct. 31, '85	3,478,884	2,426,764	1,867,005	7,772,653	6,072

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to October 31, 1885. Cherry Grove has produced 3,478,884 barrels, Cooper 2,426,764, and Balltown 1,867,005 barrels. The daily average runs from the three fields during October were 2,131 barrels, a decrease of 43 barrels from the September figures. The daily average runs from the Cooper and Henry's Mills section for October were 777 barrels, for September 918 barrels, for August 923 barrels, and for July 906 barrels.

The Balltown field had a daily average of 925 barrels in October, 944 barrels in September and 930 in August. Cherry Grove averaged 428 barrels during October and 312 barrels in September against 363 in August, 467 in July, and 439 in June.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to October 31, 1885, inclusive, has been 7,772,653 barrels, a total daily average of 6,072 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND COGLEY RUN.

The runs from Baldridge since April 1, 1884, and from the Cogley district since May 15, 1885, have been as follows:

Month.	Baldridge Runs.	Daily Average	Cogley. Runs.	Daily Average.
April	25 325	844		
May	32,885	1,061		
June	29,070	969		
July	27,545	889		
August	26,134	843		
September	79,324	2,644		
October	187,068	6,034		
November	284896	9,493		
December	270,644	8,730		
January, 1885	192,180	6,199		
February	205,774	7,349		
March	224,398	7,239		
April	280,005	9,333		
May	232,138	7,488	3,927	127
June	105,774	5,905	18.266	609
July	119,531	3,856	37,848	1,220
August	70,318	2,268	65,570	2,115
September	60,637	2,021	97,325	3,244
October	58,834	1,898	153,110	4,939

For the six months ending with October 31 the Cogley oil field has produced 376,046 barrels of oil, a daily average of 2,225 barrels. Previous to May 15th Cogley oil was included with the general runs of the old Clarion field. The daily average for October is an increase of 1,695 barrels over September. The Thorn Creek and Baldridge runs averaged 1,898 barrels a day in October and 2,021 in September. The Pittsburgh Pipe Line does not report its runs from Thorn Creek.

The Refined Market.

Refiners are still hopefully predicting an increased demand for their product on the part of the European buyer, but the month recently closed showed no indications of an immediate change in the situation that has prevailed for some time. Stocks in foreign ports are 750,000 barrels short of the supply on hand at the close of October last year, and the foreign dealer seems to think there is no need to make haste to replenish them. He evidently believes himself in an independent position as far as the future is concerned, and relies upon Russian competition to hold American prices in check, and keep Europe supplied with cheap petroleum, should the supply from America be altogether shut off.

Wm. H. Samuel & Co., under date of October 18, say: "Stocks of refined oil have slightly increased in London and Liverpool, but have undergone considerable reduction in Continental ports, and there is not at present sufficient oil visible for Europe to last until the end of the year. About one-fifth of the oil now visible for Liverpool is Russian oil, and the fact that this oil is now becoming so important a factor cannot fail to have a considerable influence upon prices, as indeed, it already has, in the absence of the high prices which would have been inevitable this year but for the competition of Russian oil."

A late circular from the Messrs. Wirth & Co., of Frankfort-on-the-Main, Germany, states that while "Russia has not succeeded in gaining a speedy victory" in European markets, it has not given up its efforts in that direction, as shown by the altering of the duty so as to favor Russian oils by the German Council of State. Russian oil in tanks has already been shipped from St. Petersburg to Lubeck, and "will very soon be dispatched up the Rhine via Rotterdam." The change in the duty is such as to make it $2.50 on all petroleum oil barrels, "and through this measure Russian oils will soon be introduced into south Germany," the principal market of the United States. The effect of this new duty may be better understood when it is known that for returned barrels the duty is refunded.

Austria has been steadily encouraging home refining interests by discriminating duties in favor of Russian crude, thus increasing the trade of the Mediterranean and Adriatic ports at the expense of the Baltic. This has excited the jealousy of North Germany, and Ger-

man ambition to increase the tonnage of the North Sea and Baltic ports must result in favor of imports of refined from the United States.

Refined in cases has been in fair demand for Eastern ports, on higher quotations of from 9¾ to 11 cents, according to brand. The shipments of refined in cases to the East for ten months of the present year are 479,827 cases in excess of the same time last year, but October, '85, shows a falling off of 36,370 cases as compared with October, '84.

The domestic trade, as is nsual at this season of the year, is large, with the following quotations for Standard White oil: 110 test, 8 3-4 to 9c.; 120 test, 9 1-4 to 9 3-4c.; 130 test, 8 7-8 to 9 1-4c.; N. Y. State test, 9 1-2c.; 150 test 10 3-4c., and 300 test 12 to 13c. Naphtha in cargo lots is worth 7 1-2c.

Mr. George H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East up to the first of November, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai, previously reported	1,520,050	646,583
" October	59,656	
Hong Kong, previously reported	629,769	606,327
" " October	111,324	
JAPAN—Yokohoma, previously reported	727,071	621,579
" " October	154,381	
Hiogo	641,875	452,153
Nagasaki	171,192	71,516
INDIA—Calcutta, previously reported	1,007,367	1,600,883
" October	115,700	
Bombay, previously reported	925,854	928,086
" October	-------	
Kurrachee	96 263	51,505
Point de Galle	18,428	66,720
Madras	47,382	42,260
Rangoon and Colombo	159,491	304,843
JAVA—Batavia	654,750	479,066
Anjier	740,737	1,396,152
SINGAPORE	227,933	172,253
Penang and Singapore	-------	28,900
Penang	169,975	229,522
Other Eastern ports	314,399	315,422
Total November 1	8,493,597	8,013,770
Total October 1	7,621,035	7,104,838
October clearances	872,562	908,932
Decrease as compared with October last year	36,370	

REFINED QUOTATIONS FOR OCTOB'R.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwer.
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	8½	8⅜	8⅜	6⅞	7.50	18¾
2	8⅜	8¼	8¼	6⅞	7.45	18¾
3	8⅜	8¼	8¼	6⅞	7.40	18¾
4						
5	8⅜	8⅛	8⅛	6⅞	7.40	18¾
6	8⅜	8⅛	8⅛	6⅞	7.40	18¾
7	8⅜	8⅛	8⅛	6⅞	7.40	18¾
8	8⅜	8⅛	8⅛	6⅞	7.40	18¾
9	8⅜	8⅛	8⅛	6⅞	7.40	18¾
10	8⅜	8⅛	8⅛	6⅞	7.40	18¾
11						
12	8⅜	8¼	8¼	6¾	7.45	18¾
13	8⅜	8¼	8¼	6¾	7.45	19
14	8⅜	8¼	8⅜	6¾	7.45	19⅛
15	8⅜	8¼	8⅜	6¾	7.45	19
16	8⅜	8¼	8⅜	6¾	7.45	19¼
17	8½	8¼	8¼	6⅞	7.60	19½
18						
19	8½	8¼	8¼	7	7·60	19½
20	8½	8¼	8¼	7⅛	7.60	19½
21	8⅝	8¼	8¼	7⅛	7.65	19⅝
22	8⅝	8¼	8¼	7⅛	7.65	19⅝
23	8⅝	8¼	8¼	7⅛	7.60	19⅝
24	8⅝	8¼	8¼	7¼	7.55	19½
25						
26	8⅝	8⅜	8⅜	7¼	7.60	19½
27	8½	8¼	8¼	7⅛	7.55	19½
28	8⅝	8⅜	8⅜	7⅛	7.55	19⅝
29	8⅝	8⅜	8⅜	7	7.55	19⅝
30	8⅝	8⅜	8⅜	7⅛	7.50	19⅜
31	8⅜	8⅜	8⅜	7⅛	7 55	19⅝

SUBSCRIBE for the PETROLEUM AGE. Three dollars per year. Single numbers 30 cents.

TWO GOOD SAMPLE OIL REGION LIES.

By the Veracious Outside Correspondent.

IT MUST HAVE BEEN THE COLONEL.

A good story is told of the shooting of the first well at Smethport. Roberts, the glycerine man, drove over there one afternoon with a load of the "stuff." His coming had been heralded, and the streets were deserted. Driving his team into the hotel barn at full speed, the hostler heeled it for the woods, and Roberts was compelled to see to his horses himself. Next day the biggest liar in town was on hand, of course. He had "seen 'em shoot the well, and Roberts give me a teaspoonful of the stuff. I put three drops of it on an anvil in the blacksmith shop, struck it with a 12-pound hammer, and I'm blasted if it didn't blow hammer, handle and all right up through the roof, and it landed a mile and a half down the creek. When we picked it up its temper was gone; it was as soft as lead. The friction caused by its quick passage through the air had taken the temper entirely out of it. It must have been red-hot when it struck!"

IT COULDN'T HAVE BEEN BALDY.

"The oil sharpers are not so prevalent in this region as they were years ago," said a veteran oil man yesterday, "but they are still on deck. I see that one who used to be known in the oil regions played a nice game in Detroit the other day. About two years ago a farmer came to Detroit from Oakland county, and to several capitalists unfolded a tale of visionary wealth. He represented himself as being experienced in oil matters, and said his farm contained wells of oil. He invited several rich men to his farm, and they were delighted with the prospects. Even intimate friends were not told about the scheme. They thought the land lay just as oil land, and McManus pointed out the glassy substance floating on the pools of water.

"A stock company was formed and last fall drilling began. It was continued in the spring, and a few months ago genuine petroleum was brought to the surface. Two weeks ago the oil came in large quantities. It flowed rapidly to the extent of several barrels, and then the supply gave out. In the meanwhile the farm and adjacent land was being gobbled up by the syndicate. Boring was continued and oil came, but again came a sudden stop. One of the stockholders determined to ascertain the causes which led to the occasional cessations in the flow of the oil by taking up the pipe. Raising it is a difficult task. It was 90 feet in the ground. The pipe had been pulled up but a few feet when a small lead pipe was discovered which accompanied the large pipe in its downward course. It looked suspicious. The whole 90 feet of pipe had been pulled out, and it was found that the little lead pipe ran to the end. There it was soldered into the main pipe. About three feet from the ground the lead pipe ran some distance away from the drill and connected with a hogshead filled with petoleum.

"The mystery was solved and the source of the oil flow made plain. At the end of each day's drill it was evident McManus had soldered on enough lead pipe to connect the hogshead, as numerous joints demonstrated. On the day of the large flow of oil it had been put in barrels, but the following day it had disappeard from the barrels. McManus claimed the neighbors had stolen it, or the barrels had leaked, but it is probable the well was again salted with its own product. The day the pipe was pulled from the ground McManus disappeared. but it has been ascertained since that he laid in the bushes near the scene and watched the blasting of hopes of wealth.

"This is an instance of what used to be common in the early days of the excitement. I remember how poor farmers were thus gulled in this State, and often financially ruined."

THE RUSSIAN PETROLEUM INDUSTRY.

BY BOVERTON REDWOOD, F.I.C., F.C.S.

[Continued from Page 1116.]

It is a novel experience to look into the stoke hole of a Caspian oil-burning steamer. Instead of grimy toiling firemen, and coal trimmers, there is a single attendant whose sole duties consist in regulating the cocks supplying the astatki and steam. Consulting the pressure gauge from time to time this attendant is able so to regulate the heat that there is neither a scarcity nor a superabundance of steam.

Liquid fuel is also now largely used on the Russian railways, including the Trans-Caucasian and the Griazi-Tsaritsin lines. In regard to its employment on the latter railway, Mr. Urquhart stated last year in *Engineering* that the combustion was smokelessly perfect, and that a practical evaporation of 12 to 12½ lb. per lb. of petroleum was possible. He added that 3 or 4 tons of astatki can be run into the tank on the tender in about 4 minutes, the supply of water being taken in at the same time.

While traveling by train from Baku to Batoum, I noticed that although no smoke was emitted by the locomotive, there was occasionally a disagreeable odor of imperfectly consumed petroleum, but I have no doubt, that when the the arrangements for burning astatki in such boilers are perfected, this source of annoyance will be removed.

Experiments with a stationary boiler in Messrs. Nobel's works show that one pound of astatki sprayed as described, vaporizes 12 lb. of water while the same quantity of coal only vaporizes from 7 to 8 lb. in the same boiler.

In consequence of the objections attaching to the steam-spraying method of burning astatki, Mr. Noble has made a large number of experiments with the object of devising an apparatus in which satisfactory combustion of the fuel might be attained without the use of steam, and has recently patented an arrangement which appears to answer the purpose admirably. The apparatus consists essentially of a series of shallow receptacles or troughs, so arranged one above another at the mouth of the furnace, that the burning astatki flows by successive stages from the highest to the lowest. I have on the table one of these troughs, and the diagrams illustrate a more recent form, as well as the method of applying the apparatus to the heating of steam boilers.

With this apparatus no less than 14½ lbs. of water can be vaporized by the combustion of 1 lb. of astatki, the heating effect of the liquid burned under the two conditions described, as compared with coal being, therefore, as follows :—

Practical evaporation per 1 lb. of fuel in a steam boiler at Messrs. Nobel's works.

Coal	7 to 8 lbs.
Astatki steam-sprayed	12 "
Astatki burned with Noble's system of troughs	14½ "

The most remarkable results have, however, been obtained in the use of Noble's trough burner for metallurgical purposes. In a furnace at Mr. Noble's engineering works at St. Petersburg I saw wrought iron reduced to a state of fusion, and horse-shoes, spanners, toothed wheels and other articles of soft iron can thus be easily and cheaply produced by casting in moulds. I have on the table specimens of this kind of iron work, notably a spanner, which has been bent double under a hammer without showing any signs of fracture. These results have been obtained without any heating of the air supply; and there can be no doubt that if the air required for the combustion of the fuel were previously brought in contact with heated surfaces, much higher temperatures might be commanded. The difficulty of finding sufficiently intractable materials for the furnaces has, however, hitherto stood in the way of making experiments in this direction. Liquid fuel is thus practically applied for the fusion of iron and brass in Baku; and it is found that old scrap iron may, in this way, be converted into a soft grey pig iron. The employment of astatki for metallurgical operations is largely extending, and the freedom of fuel from phosphorus and sulphur gives it a great advantage. The cost of astatki at Baku is about 2s 6d per ton, and it can be delivered at Tsaritsin on the Volga at about 8s per ton. It is now much used in Moscow, and in localities as far distant as Stockholm and Teheran, no less than 1,500 tons per annum being shipped to Persian ports. Among the advantages of liquid fuel for steamships may be mentioned economy of space in stowage as well as of labor and time in placing the fuel on board and supplying it to the furnaces, and the smokeless character of the combustion; the last named being an important point in the case of ships of war.

We have now to consider a feature of the Russian petroleum industry, which is of special interest to the chemist, and seems destined to be of great commercial importance. I refer to the employment of astatki as a source of benzine, anthracene and napthalene. The process employed can scarcely be said to have passed beyond the experimental stage; but the apparatus I saw was of considerable size; and I am assured that the trials have been conducted on a scale sufficiently large to demonstrate conclusively the practicability of the mode of operating. The astatki is decomposed in a cupola regenerative furnace, which has been patented by Mr. Noble, to whom I am indebted for the following interesting particulars of the results obtained. The first destructive distillation gives from 30 to 40 per cent of tar, containing from 15 to 17 per cent of 50 per cent benzol. By a second destructive distillation of the heavy oils remaining in the tar after the separation of the benzol, 70 per cent of tar is obtained containing from 7 to 10 per cent of 50 per cent benzol, 16 per cent of naphthalene, 2 to 3 per cent of dry "green grease" (or 30 per cent anthracene), and 24 per cent of pitch. There is also obtained in the process 75 to 100 cubic feet per cubic foot of astatki of gas having an illuminating power five times greater than that of coal gas. The regenerative furnace is first heated to 1000 deg. C., astatki being, of course, used as the heating agent, and when it has become cooled in the process of decomposing the astatki it is again similarly heated, the gas remaining in the furnace and the coke deposited on the hearth being utilized as fuel. The furnace is stated to remain in working order without cleaning for twelve months. The world's consumption of benzol is probably not less than 7000 to 8000 tons per annum. London gas-tar contains 1 per cent of 50 per cent benzol and 1 per cent of 30 per cent anthracene.

(*To be Continued.*)

THE Philadelphia Company furnishes all the ward engine-houses in Pittsburgh with gas free.

JOHN CONLEY has shipped one of his 90-barrel gasometers, to Litchfied, Illinois. It is to be used in regulating the pressure of the natural gas that is to be supplied to the citizens, through the enterprise of Mr. Clyde H. Van Vleck.

THE PRODUCING REGION.

ALLEGANY FIELD.

Operators in the Allegany field, are satisfied with drilling cheap wells and content with small returns. The edges of the old territory are being carefully explored, while a small stretch of new, in the towns of Clarksville and Wirt, engages the attention of more ambitious producers. Sixty-two wells were completed in October with an average production of about seven barrels. The Barton & Ackerly well on lot 63, Wirt, is a small producer. It is on the extreme northeast of the Clarksville belt, and at this writing the nearest approach to the Nile section. The Book and Shannon well now drilling on lot 55, is located directly south of the Rice duster on lot 56, and two-thirds of a mile ahead of the Barton & Ackerly. The Clarksville belt is an exceedingly narrow one and from present appearances it will not be greater than four or five miles in length. The well of Rollin Dow near the northeast corner of lot 35, Clarksville, is seeking for a southwestern extension of the belt.

In the town of Bolivar an effort is being made to discover a southwest outlet to the Waugh & Porter pool on lot 34, by D. A. Newton, who is drilling on lot 33. A brace of wild cats is under way on the east of the field. Capt. Barnum is conducting an experiment in the town of Willing, while Van Campen, Lovell & Co. are drilling Howard township, Steuben county. Thompson & Veazie have a venture under way on Five Mile Run, northwest of Olean.

On the last day of October there were 47 new rigs, 35 old rigs and 57 drilling wells in the Allegany field, a total of 139, a net decrease of three from the September figures. The pipe line runs from the Allegany field, averaged 7,081 barrels a day in October and 6,647 barrels in September.

THE BRADFORD FIELD.

In spite of the heavy roads and wet weather, that prevailed during the greater part of October, the Bradford producer was as active as ever, in renovating and shooting old wells and preparing for the sinking of new. Sixty-two wells were completed, including two failures. The wells average above ten barrels, but are mostly located along the borders of districts that have furnished material for the drill, for the past five years. State Line, Indian Creek and the Harrisburg Run sections, have been pushing out their northern boundaries, with greater or less success. Territory that was apparently condemned to inaction, until two dollar oil, was an assured certainty, is now eagerly sought after, and anything that promises the most insignificant wells, commands a value and finds a purchaser.

The southwestern portion of the field, the region between Timbuctoo and the Kinzua pool, has been the scene of considerable activity for the past four or five months. The Atlas Oil Co.'s, No. 16, on the Taylor lands started off at 90 barrels, and proved a surprise to the operators in that section. The second sand territory in the vicinity of Crooker Hollow on the West Branch, afforded no good strikes during October. F. E. Boden & Co. found a three barrel well, in the second sand, far out in the deep forests about the head waters of Marilla Brook. It is located on the Mack lands, warrant 3,908.

P. F. Kearns is drilling a wild cat well, near the junction of Mead Run and Kinzua Creek, on lot 137, Hamilton township, and White & Clemenger have an important test in the sand, on warrant 3,767, Wetmore township, southwest of Kane.

There were 52 new rigs, 23 old rigs and 80 drilling wells in the Bradford field, on the 31st of October. September 30, the monthly count showed 51 new rigs, 28 old ones and 73 drilling wells. The October pipe line runs were 30,828 barrels and the September 30,151 barrels a day.

THE MIDDLE FIELD.

There were 109 wells completed in the Middle Field in the month of October, 14 of which were dry. The new production is estimated at 1,001 barrels. September completed 72 wells and 10 dry holes, and the new production was 611 barrels. On the last day of October the field showed 88 new rigs, 11 old rigs and 87 drilling wells, a total of 186, as compared with 174, the total at the close of September. The bulk of the operations is still confined to the Stoneham, Clarendon and Tiona development, which completed 68 of the wells, and contained 119 of the rigs and drilling wells on October 31.

Kinzua Village made an interesting record for October, furnishing the oil trade with a couple of the largest wells struck within the entire region. The Phillips & Collins No. 4, on the Marsh, within 50 feet of the Rollins farm gusher, started at over 400 barrels for the first 24 hours, and on the first of November was doing above 200. The Anchor No. 3, on the Morrison, was making 130 barrels a day toward the last of October. No. 4, which has been drilled through the sand since the monthly report was published, contrary to all expectations is a very small affair, and again the future of this field looks obscured. Pliny Parker & Co. found a small well on the Fuller farm, northeast of the VanScoy duster, on the Marsh, which was a great surprise. It seems to demonstrate the existence of another streak of oil-bearing rock parallel and with a narrow dry belt between it and the older development. Swift & Phillips found a duster on the Swift farm up the river in the vicinity of Fogel & Co.'s wells. The experiment of Bovee, Duck & Co., on the Harris farm, southeast corner of warrant 3726, Sugar Run, is pronounced a failure. Porter & Conley have recently finished a duster on the Culbertson farm southwest of the village, toward Wardwell. Pickett & Stone are conducting an experiment on the extreme north. It is located on the W. H. McClellan lands, warrant 3729, Corydon township. C. C. Joy & Co. are drilling on the Chattel lands, warrant 3712, in the Sugar Run section. Between Kinzua Village and Wardwell three or four wells are drilling, seeking for more territory of the Clarendon, Tiona stripe.

Operations continue very active in the Clarendon field. Northeast of Tiona Booth Bros. struck a good well on lot 83, which has attracted a great deal of attention, and already a dozen or more producers are hunting the crude fountain of which the 83 well has shown the existence. Farther to the north S. B. Logan has started an experiment on the southeast corner of warrant 2978 to determine the northern limits of the new addition to the Tiona Field. Booth Bros.' strike has started the theory of a belt that is expected to extend from warrant 2978 through the heart of Tiona to lot 284, in the extreme southwest, a distance of nearly ten miles.

The annex to the northeastern part of the Balltown development has been confined within narrower limits by the result of several experiments on the northeast and south, during the past thirty days. Barnsdall Brothers completed a dry hole near the southwestern part of lot 739. Book & Gartlan finished another on lot 754, and since the first of the month the well of Harry Dufur and T. J. Vanlergrift, on lot 740, has proved a strong gasser, with no showing of the less volatile and more greasy

fluid. On the south of the new development Armor & Co. have completed a light well on warrant 4791, which will discourage further operations in that immediate vicinity. N. F. Clark struck a good well on 3195, which started at about 200 barrels; he also completed a very light well, which is ranked among the dusters. The Balltown Oil Co. found a dry hole on warrant 3197, on a supposed connecting belt between the Cooper and Balltown pools. Southwest of the Balltown field proper James Welsh has put down his third failure on warrant 5214. W. B. Roberts & Son have completed their second well on warrant 3561 in Forest county. It is a little better than No. 1, which is doing in the neighborhood of three barrels a day.

THE LOWER COUNTRY.

The Red Valley development in Rockland township, Venango county increased its production during October and afforded the operators directly interested a series of surprises. The Wentling & Mull well on the J. Jolly farm the farthest one west was tubed Oct. 26th and pumped the first 24 hours 140 barrels. At that time the thirteen wells old and new in the field were producing about 450 barrels. The production of the field Nov. 6th was 740 barrels from 19 wells. The well drilled by the Fisher Oil Co. on the school house lot a short distance north of the large wells found only two feet of sand which was barren of oil. The Peifer well on the Wick tract, the farthest one to the southwest in the Red Valley development is a profitable producer and gave evidence of making more than an average well. Up to the present writing no limiting points have been established at the southwestern end of the field. Lands in the immediate vicinity of the Fisher Oil Co.'s well on the school house lot, which commanded a bonus of $100 per acre before the sand was tapped at that well would not bring a dollar. Operators conclude from the drilling which has been done on the west side of the river below Emlenton, that the sand from which the Red Valley wells get their oil extends to that point.

New work in the Balltown field is quiet and the three wells completed there in October afford a slender amount of crude. The usual amount of new work is being done about Emlenton.

The Cogley field in Clarion county as will be seen by the pipe line runs, had a daily average production for October of nearly 5,000 barrels. The drilling of that month enlarged the territory on the western side at the northern end of the field and also demonstrated that the southern end of the field had thinned out and was broken up into streaks. On the Beals, Slicker and Smith farms quite an area was condemned which had been considered good. The count at the close of the month did not show any change in the volume of new work, and enough was being done to maintain the production during November and probably to increase it. In October 92 wells were completed having a new production on the last day of the month of 2,538 barrels. During September 65 wells were finished having a production of 2,263 barrels. Twelve dry holes were discovered in October and one in September and this large increase in dry holes decreases the average production of the new wells for the last month.

It is now demonstrated that an uncertainty hangs over the work of operating the southwestern section of the field, and the work can no longer be conducted on a paying basis. The theory of a western and parallel streak was rudely dispelled by the completion of a cross line of dry holes west of the belt. The most westerly was drilled by Lewis, Caldwell & Co. on the Weaver farm, the next by J. M. Deitrich & Co. on the Sniveley farm and the nearest one to the producing streak by Cowles, Minkin Bros., Clark & Co. on the Phillips farm. The Frederick Hatch well on the Wm. Mong farm at the southwestern end of the field is rated a small well. On the last day of October there were 69 new rigs, 12 old rigs, and 82 wells drilling in the field, a total of 163 against 169 on the last day of September.

Newell & Jones completed a dry hole at Sligo and Whitehill & Co. found one at the mouth of Deer Creek near the Clarion River.

BUTLER & ARMSTRONG.

Since the midnight mystery on the Helmbold heirs farm, Rough Run, was completed, the old counties of Butler and Armstrong have yielded their claim on the oil speculators attention. Phillips Bros. continue their search for a new pool east of Thorn Creek and have scored a series of failures in their explorations. Four wells were completed about the Centennial Oil Co.'s well east of Millerstown during October and a number have since been finished, which help to give a form to the development. The well on the Getley heirs farm, about 60 rods west of the Centennial No. 1, on the Ort farm produced at the rate of eight barrels while it was being drilled through the lower pay streak of the sand. The Reep & Sutton well on the O'Brien farm and Hartman, Bruce & Co.'s venture on the J. Hartman are numbered with the dusters, and demonstrate that the streak does not extend to the southwest.

Brimer & Co. after much trouble with salt water at their well on the Keeling farm near Carbon Center found that it was barren of oil in all the sands.

In the Bowlder territory at Martinsburg, only two wells were drilling on the first of the month. A number of rigs were standing from which tools would never be swung and the territory west and northwest seemed to be effectually shut off.

WASHINGTON COUNTY.

Deep drilling in the country of the Gantz and Gordon wells is nearly always attended with innumerable delays. The Pew & Emerson well, on the Gabby farm, after finding oil at the Gantz sand level, was sunk deeper with the idea of finding oil in greater quantities at the horizon from which the Gordon well got its supply. After numerous fishing jobs and other hindrances of a similar nature, the well is now nearly 2,600 feet deep, with no indications of the sand for which they are searching. By many the well is believed to be a failure. It is located on the W. Gabby farm, one and one-half miles east of the Gordon and 360 rods southwest of the Gantz.

On the last of October there were 9 drilling wells and 5 rigs under way in this field, with one well (the Gordon) pumping about 100 barrels per diem.

WASHINGTON OPERATIONS, OCT. 31, '85.

Gantz, Citizens' Natural Gas Co No 1 (fishing)	2300
Wilson " " "	1800
Weaver " "	rig
J Gordon, Peoples' Heat & Light Co No 2	600
E. Hess, " " No 2	100
Clark, Thayer Oil Co No 1	400
" " No 2	rig bldg
Mrs Montgomery, Niagara Oil Co No 1	650
A Smith, Dyer, Willets & Co	2150
Gabby, Pew & Emerson No 1	2530
Weirich, Coast & Son	rig
" T J Vandergrift & Co	240
Hall, "	rig
Wilson, "	rig

Up to November 2d the shipments of oil from the Gordon well amounted to 5,009 barrels, all of which has been sold at a premium of 32½ cents per barrel above the regular quotations. The Dyer, Willets Co.'s well,

on the Smith, commenced spraying oil Nov. 7, from the Gantz sand.

The following leases for oil or gas have been placed on record, nearly all of which run for a term of twenty years, and are at one-eighth royalty:

Leased by T. J. Vandergrift.—Simeon Wilson, 305 acres in Franklin twp.; Jno. Crossland, Buffalo, 180; Jas. McCoy, West Finley, 366.

By C. D. Robbins, of the Niagara Oil Co., in Mt. Pleasant.—Reed heirs, 210; J. L. Cockins, 175; Jno. Williton, 102; Wm. Simpson, 106; Samuel Willison, 140; Wm. Slater, 116; James Scott, 150. *Cross Creek*—Thos. Patterson, 200; Robt. Perrine, 143; K. W. Brownlee, 193; Jno. M. Walker, 230; Geo. H. Kelso, 111; Cephas Cockins, 160; Isaac Weaver, 75. *Peters Township*—Hugh McDowell, 110; Mary Boon, 100; Alex. Boon, 160; Jno. Pollock, 110; W. J. Johnson, 202; A J. Montgomery, Canton, 110; Jno C. McBride, Robinson, 318. *Cecil Township*—John Scott, 250; Joseph M. Gamble, 182; Joseph L. Scott, 62; Wm. McPeak, 137; W. J. & J. R. Mullin, 146; T. A. Reed, 85; James Little, 100; W. B. Moorehead, 100; Nathan G. Cook, 212; D. R. Springer, 53; W. J. Kelso, 103; S. W. Scott, 65; Geo. Kelso, 179.

By John Coast & Son.—M. H. Hayes, 23; Israel Weirich, 64, both in Canton.

By H. W. Williams.—John Ramsey, Franklin, 75; Cyrus Baldwin, Franklin, 160.

By Pew & Emerson.—William, Robert, John and Jas. Fulton, 293; John, Robert and Wm. Fulton, 137; E. D. Boyle, 175, all in North Strabane.

C. G. Elwood has leased 70 acres from Wm. H. McElree, of Franklin, and B. H. Thayer 40 acres from J. B. Wilson, South Strabane.

McKinney Bros, have leased the Thos. Elwood farm of 120 acres along the line of the B & O. R. R., paying $6,167 bonus and an eighth royalty.

The Union Oil Company bought the Montgomery farm of 127 acres, near the Gabby, for $80 an acre. This company has also leased the farm of 129 acres belonging to the estate of Jacob Zelt, for $6,800 and an eighth of the oil. This farm borders the Gordon on the west and south.

Mrs. Mary Morgan leased her farm of 160 acres to J. O. Marshall, of Jamestown, on the following conditions: The lease is for five years, or longer if oil and gas continue to be found on the farm in paying quantities. She is to receive one-eighth royalty of all the oil, also $50 a year for each gas well of 25 pounds pressure, and $1.00 additional per pound for each gas well of more than 25 pounds pressure. Mr. Marshall is to pay all taxes accruing from increased valuation.

Coast & Sons have leased from S. R. Weirich 130 acres at a bonus of $50 per acre and one-eighth royalty. They have also secured the Robert Wiley farm of 335 acres, west of the Gordon, at a cash bonus of $10,000 and an eighth royalty, with the proviso that if the ground shall prove good oil territory, an additional bonus of $5,000 shall be given.

Since the first of the month Vandergrift has started to drill on the General Hall farm and also on the McClane. Hallam & Co. have started a rig on the Clark. Willets, Young & Co. are building a rig on the James Gabby farm, adjoining the property on which the Pew & Emerson well is drilling. The Curry lot, consisting of an acre and a half, surrounded by the Wiley, Zelt and Clark farms, has been leased by the Vandergrifts, who are now busy building a rig.

THE FINDLAY OIL FIELD.

Of the seven wells bored for gas in the vicinity of Findlay, Ohio, all found greater or less indications of petroleum. The eighth well which is located in a brick yard, and the property of the Findlay Gas Light Co. was completed Nov. 6th. It was shot with 100 quarts of nitro glycerine on the following day and made a brilliant response which was wired to the outside public, as 80 feet high and equal to 300 barrels a day. No tanks had been erected, and the flow was caught in pits dug in the clay soil of the brick yard. At the end of the first week it was estimated that these rude receptacles contained from 300 to 500 barrels of oil, and the well had ceased to flow. The presence of salt water has had something to do with stopping the flow, and with the aid of sucker rods, it is expected a 25 barrel pumper will result. One-half mile east of the brick yard well, is a gas well that flows out seven barrels of oil each 24 hours.

Like all oil found in the limestone formation the Findlay oil is thick, black and of a rank and disagreeable odor and about 36 degrees gravity. The presence of sulphurous compounds account for its bad smell, and makes it disadvantageous to refine. An analysis by Professor Orton, shows that it does not carry a large amount of lubricating oil.

The drillers record of the Findlay well is as follows:

	Feet.
Conductor,	28
Water Lime,	28 to 417
Shale,	417 to 470
Red Rock,	470 to 500
Shale various colors,	500 to 1,265
Top of Trenton Limestone,	1,265
Struck oil,	1,278
Salt water small quantity,	1,280
Gas small quantity,	1,280
Total depth,	1,321

Findlay, Ohio, is the county seat of Hancock county, and about 35 miles south of Toledo. Those in this section of the country desiring to visit Findlay will find the Macksburg route, as far as Creston, the best. From Creston the route is via Wheeling & Lake Erie R. R. to either Clyde or Fremont, where good connections are made with the I. B. & W. or L. E. & W. R. R's. for Findlay. N. Y., P. & O. Trains Nos. 1, and 5 make immediate connection with the west bound Wheeling & Lake Erie Trains Nos. 2 and 6.

THE Erie Gas Fuel Company have three good gas wells and have leased nearly all the land surrounding the city in order to keep out foreign corporations. The wells there are only 750 feet deep, but some of the wealthy citizens are about to sink a test which will be drilled 2,500 feet, unless they strike gas in paying quantities at a higher level.

THE use of natural gas has brought a return of the salt industry to Allegheny county. The Pennsylvania Salt Company, at Natrona, were forced out of the business a few years ago by the high price of fuel. The company has two good salt wells and two gas wells, and again is starting up a big business.

A RUMOR has been started and promptly denied, that the Standard Oil Company intended removing its Cleveland refineries to Pittsburgh in order to profit by the abundant supply of natural gas.

THE Standard Oil Company has made a contract for two years' supply of gas for its local refineries, with the Philadelphia Company.

NOTES ON NATURAL GAS.

AN IMPORTANT DECISION—THE GOETZ CASE.

The suit of John A. Goetz against the town of Butler, to recover damages for the destruction of his house and foundation by a natural gas explosion, was argued before the Supreme Court at Pittsburgh. The plaintiff claimed that the Council and Burgess of Butler allowed the company to place defective pipes in the streets of Butler, by reason of which the gas leaked into plaintiff's cellar and caught fire and caused the explosion, killing one member of the family and badly demolishing the house and furniture of plaintiff. The case was nonsuited in the lower court and upon appeal, the Supreme Court affirmed the lower court in the following opinion:

"The plaintiff was very unfortunate and sustained a great loss, yet we do not think the borough of Butler is legally liable for the damages. The pipes as well as the gas was the property of the gas company. The borough had no interest therein. All control it has over the company and its property is purely legislative or public. It has no such immediate and direct interest in the property of this corporation as to make it liable for the negligence of the officers thereof in the absence of any statute creating such liability. The plaintiff must seek his remedy against the company as the persons whose negligence or misconduct caused his injury."

PITTSBURGH'S GAS SUPPLY.

There are four belts on four sides of Pittsburgh, from fifteen to twenty miles from the city, of which the one on the east is the great vent from the center of the earth, of which the others may be but lateral, leakages. Owing to friction in pipes gas will not force itself through more than twenty miles of pipe, and then in small quantities, except from the eastern belt, where no limit has been found. No gas has ever been found outside of this region, except in small pockets, which are soon exhausted, and for geological reasons none probably will be found.

Wheeling has given up Virginia and come away to the Washington county belt, which owing to lack of pressure, will hardly force gas to Pittsburgh. If Wheeling can get any at all it will cost more than coal, and it is impracticable to compress and pump it; neither can it be pumped to Youngstown, except by laying a steel pipe thick enough to stand two thousand pounds pressure per square inch, sufficient to push it ninety miles from the eastern belt.

The Murraysville region is the great anticlinal, the highest rocks, like the dome of a boiler; the first place gas would break through from the center of the earth, where I believe it is still generated faster than used, and where it is compressed almost to a solid. The gas wells on this belt all lie on a straight line, the extreme wells six miles apart, and if a well is drilled a few hundred feet to one side of a fissure it will not put out much gas, but only requires to be shut off a few seconds to burst any pipe, showing that the crevice leading from the fissure is small. Gas, after coming through a quarter of a mile of rock, comes out from two to three hundred pounds per inch blowing pressure, with a noise so great that with cotton in the ears, and hands held over them hard, one cannot approach. The first well struck, nearly ten years ago, is just as strong—some people say stronger—to day, although wells equal to it are right beside it. Enough wells, I believe, could be drilled on any fifteen acres of this belt to run every factory in the United States. Gas can be piped to this city (Pittsburgh) for 1-4 to 1-2 a cent per thousand feet, and if several factories go together up the river, where land is cheap, their fuel will cost (as is the case with some glass works) the interest on the money used in sinking a well in one of their back-yards. J. HARMAN KATZ.

NATURAL GAS FOR MOTIVE POWER AT TARENTUM.

The Philadelphia Company have adopted, in a limited way, natural gas for motive power. Visitors to Tarentum are shown a steam pump of several horse-power at Station F. of the Philadelphia Company, which pumps water out of Blue creek to the engines of two derricks on neighboring hillsides, where new wells are boring. The gas is run direct into the cylinder of the pump, and with an ordinary pressure drives the piston and pumps the water. The gas pipe is only an inch in diameter and runs direct from the well a few yards away to the pump. When wells are bored down to the gas sand and a strike is expected the fires in the engine furnace are often put out to avoid danger of conflagration and the steam boilers abandoned, the gas pipe being attached to the engine and the motive power being furnished that way. Messrs. Godfrey & Clark own a large natural gas well on Bull creek, which they purchased some time ago from the Tarentum Light and Heat Company. From this they get their supply of gas through a pipe-line half a mile in length. On two of their engines, furnaces and steam-boilers have been done away with entirely and the gas pipes introduced into the steam cylinders direct. There it enters at a pressure of from 60 to 100 pounds and drives tho piston rods with as much ease as steam. One of these is the steam engine in the brick yard connected with the establishment, and the other is the steam-pump which supplies the paper-mill with water from the river. Thus the necessity of steam is done away with.

STANDARD OIL CO.'S GAS INTERESTS.

"Something has been said in the papers about the interest of the Standard Oil Company in natural gas companies, but the extent of its operations is but little suspected by the public."

"It has over two hundred and sixty miles of gas pipe now in use and supplies all the leading oil country towns. There is usually a local board of directors of the various gas companies but the money is put up by the Standard. It has over a million of dollars invested, possibly twice that much, and its revenue from gas is very large, because it has a monopoly of it. Parker, Oil City, Titusville, Bradford, Olean, Millerstown, Karns City, Fern City, Cogley, Petroleum Centre, Reno, Rouseville, Franklin, Warren, Jamestown, Butler, Petrolia, Foxburg, Emlenton, Elenburg and a number of smaller places, are supplied with gas from the Standard Oil Co.'s line. Besides this it uses the gas for pumping all of its oil. It would not come to Pittsburgh now as there are too many competing companies, and it would take too much money to buy them all out. If it should wait until the business settles down into the hands of two or three big companies, it is still more doubtful about its coming here at all. It could put in the plant at about half what it would have to pay for it, and it does not pay money for watered stock. I think it will simply enlarge its field among the small towns and will not try its hand on Pittsburgh."—*Pittsburgh Exchange.*

DOINGS OF THE GAS COMPANIES.

The Peoples' Natural Gas Company, (Pew & Emerson), has not yet been granted admission to the city of Pittsburgh, by the Council. The Hite Company is in the same predicament.

The Philadelphia Co. has increased the number of its directors from seven to nine, by the election of Dr.

David Hostetter and his son D. Herbert Hostetter. It has also increased the capital stock of the Penn Fuel, Fuel Gas, Carpenter and Acme Companies, and dissolved a number of the smaller companies, whose charters it held.

The Clarion Light and Heat Company with a capital stock of $18,000 was chartered at the State Department, Harrisburg, on the 28th of September.

The Independent Natural Gas Company will ask for a charter on Nov. 28. Its business is to be conducted in the county of Westmoreland, and in the cities of Pittsburgh and Allegheny and in the county of Allegheny. The names of the subscribers to the charter are H. H. Byram, C. B. Shea, Charles L. Caldwell, Murray Verner, and C. C. Dickey. The capital of the company has not yet been made public, but it is understood the figures will be rather high. It already has some valuable gas property in the county of Westmoreland.

A number of leading people in Sewickley, Ezra P. Young, L. Halsey Williams, George H. Christy and others, have organized a natural gas company, and will lay mains to connect with those of the Bridgewater Gas Company, of Beaver county, and either buy gas from that corporation to supply customers at Sewickley, or sell to it their mains and service lines.

The Meadville Natural Gas Company has been chartered. Capital stock $100,000. Directors, Samuel B. Dick, James D. Gill, Walter S. Harper, John Porter and William Brignald, Meadville.

The third company to bore for and pipe gas in Beaver county has just been formed by some parties from East Liverpool, O. They leased ground aggregating in the whole about 200 acres from farmers near Poe, and have signed an agreement to put down nine test wells inside of as many months. They will pipe the gas to East Liverpool, Frankfort Springs and other towns in Beaver county and Eastern Ohio.

A consolidation of the Bridgewater and Economy Gas Companies, was effected in September, the Economy Co. paying $250,000 for half the stock of the Bridgewater Co. The Bridgewater Company has a half dozen wells, in the vicinity of New Sheffield, where the Economy Company also have a gusher on the John Calvert farm. This union practically controls the gas supply for the counties of Beaver and Lawrence, and the stock is distributed among the following: A. W. Mellon, T. Mellon & Sons, Judge Henry Hice, Fisher Brothers, Henry C. Fry, J. J. Vandergrift, H. C. Frick, H. Phipps, Jr., Hartman Steel Company, Thomas M. Carnegie, Andrew Carnegie, Jesse H. Lippincott. The town of Rochester is already laid with some twenty odd miles of pipe, that of Beaver Falls with ten to fifteen, and New Brighton, with some ten miles, and these places are supplied by two eight-inch mains thirteen miles in length. A test made of the latest gas well struck by this company developed a pressure of 485 pounds to the square inch in one minute. It is supplying natural gas to the Rochester Tumbler Company, as well as to other consumers there; to the Hartman Steel Company at Beaver Falls, and to the various manufacturing concerns owned and controlled by the Economy Society at the latter place. The income of the Bridgewater Gas Company has increased since the consolidation, from $8,600 to $15,000 per month. It supplies now 4,000 fireplaces at the uniform rate of $1 per month each.

The Chartiers (also known as the Chambers) Natural Gas Company has increased its capital stock from $1,000,000 to $2,000,000, all of which has been subscribed. The charter of the company allows this capital to be further increased to $5,000,000. Among the gentlemen and firms who have taken an interest in the enlarged company are James M. Chambers, William E. Schmertz, H. Sellers McKee, Jones & Laughlins, Oliver Brothers & Phillips, J. J. Vandergrift, Calvin Wells, John H. Dalzell, A. C. Dravo, the Republic Iron-Works Company, Phillips, Nimick & Co., Singer, Nimick & Co., A. & D. H. Chambers, McKee & Co., Adams & Co., and nearly every glass manufacturer on the South Side, except Atterbury & Co. It is said that the company proposes to confine its operations almost entirely for a time to the Monongahela Valley. It has now a fine source of supply in Washington county, and has pipes already laid to and in Pittsburgh. It is stated that this company is the only one outside of the Philadelphia Company that has obtained ordinances from Pittsburgh councils allowing them access to the streets. The Merchants and Manufacturers Natural Gas Company, which was organized by Max Morehead and others, finding that it could get natural gas cheap by going into this organization, decided not to construct a plant of their own, have taken a large block of stock in the Chartiers.

A new company has been organized at Pittsburgh, which will attempt to cover all the natural gas territory within the belt. Heretofore the companies formed in that city have only aimed to handle certain wells in certain regions. The new company goes further than this, and will handle gas from all places where it can be found. It is stated that a charter will be issued to the company, on November 28. The company is composed largely of Pittsburgh capitalists and will be granted the right to bore for natural gas, market it and pipe it from any of the counties of Westmoreland, Indiana, Butler, Beaver, Lawrence, Mercer, Armstrong or Allegheny. The capital of the new company will be between $4,000,000 and $5,000,000, and its principal offices will be in Pittsburgh. It is generally understood that some of the old Penn Fuel Company, Messrs. Brown and Trautman, Sellers McKee and Captain Vandergrift, are the chief originators of the new scheme. Captain Vandergrift, it is said, represents the Standard Oil Co. The Chartiers Company is not yet in the new deal, but it is understood that negotiations are in progress with that company, the new company hoping to reach the city through the Chartiers lines, if in no other way. The new gas company has already begun operations in the Murraysville region. It is pursuing a different policy from the one adopted by the other companies in buying all its property instead of leasing it. It has already spent over $50,000 in buying about one dozen lots in the town itself. It is the intention of the company to erect wells on the back part of each of the lots and begin operations at once. The materials for fitting up the wells are already on the ground. The company will lay a 16-inch pipe into the city in the spring and will next fall lay an additional line of pipe from other property they now contemplate buying.

The Columbia Gas Light and Fuel Company, recently organized has a capital stock of $500,000, which is held by parties in Bradford, Franklin, Oil City, St. Petersburg and Philadelphia. It is the intention of the company to commence a survey from the McKeever gas well, through to Meadville and Erie. A branch line will run from Cochranton to Mercer, Greenville, Clarksville, Sharpsville and Sharon. The rolling mills of the latter place will be supplied with gas at a cost considerably less than coal. Application for a charter has been

made, and everything is being pushed with a vim characteristic of the gentlemen who have the project in charge. Among the leading stockholders are R. E. Townsend, Bradford; Judge Finletter, and Michael Murphy, of Philadelphia, Hon. A. G. Egbert, of Franklin, and Thomas Simpson and Thomas McLaughlin, of Oil City.

The Uniontown Fuel Gas Company, with a capital stock of $30,000, has been chartered at Harrisburg. The stockholders are H. C. Frick, of Pittsburgh; Hon. C. E. Boyle, J. M. Thompson, Hon. J. K. Ewing and W. Mellon. The object of the company is to bore wells for natural gas to supply the citizens of Uniontown for domestic purposes. A well has been located for the company by Professor White. It is on the farm of Aaron Dearth, about two and one-half miles from Uniontown. Two hundred acres have been leased, and great results are expected. The enterprise is a great experiment, as the land leased is located directly at the foot of the Chestnut Ridge of the mountains. The nearest wells to the new work are at Bellevernon and Murraysville, so that if gas is found on Dearth's farm it is probable that companies will be formed to try and discover gas all along the mountain slope.

MORE GASSERS.

J. M. Guffey & Co. struck their third gas well, near Cannonsburg on the 12th ult. It is as strong as either of the other wells, and equal to anything in the Murraysville region. The well is half a mile from Houston Station, on the B. & O. R. R. and was located by Professor White of the West Virginia University. The Company will drill ten wells. The gas will be carried through a 16-inch main to Temperanceville, a distance of fourteen miles.

The Tanners Oil Company, of Allegheny, which is composed of Mr. C. O. Lappe, Mr. William Wettach and other prominent tanners, found a heavy gas vein at Callery Junction, Butler county, on the 23d of October. The gas has been piped to one side and the drilling resumed.

On the 26th of October, the Philadelphia Natural Gas Company, finished another heavy gaser in the Murraysville field. It is located within 100 feet of one of the largest gas wells in the region. Thus far, close proximity of the gas wells has not affected the pressure exerted by them.

The Washington County Natural Gas Co., has a new gas well on the Grounds farm, near Hickory, three miles from and on a direct line with the McGugan well. The gas is found in the third sand, at a depth of 2,200 feet, and will be taken to Pittsburgh.

The Philadelphia Co. completed Oct. 13, a good gas well on the Smith farm, in the Tarentum field. It registered 500 lbs. pressure and will be known as Smith, No. 3. Smith, No. 1, is the property of the Pittsburgh Plate Glass Company, and saves it $60,000 yearly in fuel.

A short branch line conveys the product of Smith No. 3, into the great main of the Philadelphia Co., Bull creek, and that line runs to the city. This one well adds a pressure of thirty pounds to the large volume of gas in this main at Tarentum, and, this being reduced by the gauge system as it approaches the city, gives two and one-half pounds additional pressure within Pittsburgh and Allegheny. This two and one-half pounds, with the reserve force of thirty pounds back of it, is sufficient to supply a dozen more rolling-mills with fuel.

The Chartiers Gas Company, Oct. 31, struck a heavy well at Hickory in Washington county. The well is nearly in the village and gas was found at a depth of about 2,200 feet. The flow has not been measured yet, but it is thought to be the best well the company has yet struck. It will be called the Carlisle well and is the third the company has found in the deep sand.

A good gas strike is reported at Pine creek in McCandless township, Allegheny county, about a mile and a half from Wexford.

Natural gas was struck, Oct. 23rd, in a well drilling at Pine Hollow, one-half mile east of Sharon, in Mercer county, at a depth of 400 feet.

The Shenango Natural Gas Co. finished their No. 4 well on the Bond farm, near Wick Station, Oct. 16. It is the largest of the four and registers 200 pounds pressure. Its product will be used to supply the city of New Castle.

Reiber & Co., while drilling for oil on the McCandless farm, just outside the borough limits of Butler, on the 6th of October, struck one of the very largest kind of gasers. It is only a short distance from the Butler Water Co.'s pump station, on the line of the Shenango & Allegheny and Pittsburgh & Western roads.

The test well at Irwin Station, Westmoreland county, found a light flow of gas at a depth of 2,375 feet. There is 2,200 feet of water in the hole, but the gas forces its way through the water and supplies a flame about six feet high. They propose to case off the water and give the gas a chance to exert its greatest pressure.

NATURAL GAS IN OHIO.

Wells have been sunk for natural gas with greater or less success at Springfield, Sidney, Wapakoneta, Kenton, Marion, Lima, Findlay, Fostoria, Fremont, and a number of other points in Ohio. Lima has struck oil in two of her wells and is boring a number of others. Findlay has seven wells yielding more gas than they can use until they get more manufactories there, which will come sure. During the fair at that place, the streets and road leading to the fair grounds were lit by natural gas. A line of natural gas jets making a flame of fire several inches thick extended the whole length of the route and made the street light as day. Gas for the heating and lighting purposes of a large residence is supplied for $40 a year. No meters are used, but consumers burn all that is wanted. Nearly all the factories are using the gas in place of coal, and Findlay is booming.

A good vein of gas was struck at Massilon, Ohio, near the Fort Wayne depot, at 550 feet about the middle of last month.

The well drilling for gas at Marietta, Ohio, was abandoned early in October, after a depth of 1,972 feet had been reached.

NATURAL GAS FOR ILLUMINATING PURPOSES.

Articles of agreement have been signed between Geo. W. Westinghouse, John Caldwell and others on behalf of Pittsburgh capitalists interested in natural gas production, and Mr. Henry Harley, at one time a famous oil dealer of that city, but now of New York, and Mr. Benjamin F. Sherman, a gentleman well-known in New York, as having been identified with the production of artificial gas, for the utilizing of natural gas for illuminating purposes. It is claimed the cost will be fully 50 per cent below the present cost to consumers.

WM. DUKE, of Wellsville, with Norton & York, of Allentown, N. Y., have leased 3,000 acres of land in the town of Hinsdale, Cattaraugus Co., and will proceed to test it for oil. The first well will be sunk on the farm of Leander Yates on Dutch Hill.

OCTOBER OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN OCTOBER, 1885.

Allegany Field.

Twp.	Owner.	Barrels.
Scio, 1, (Swift f rm)	Manhattan Oil Co No 9	5
" 1,	Pickering & Smith	6
" 1,	Straight & Hochstetter No 7	6
" 2,	Pennell & Co No 1	6
" 4,	Mackin & Breckenridge No 11	6
" 51,	Duke & Norton Oil Co No 53	5
Alma, 2,	H L McMullan & Co	5
" 3,	Weeter & Co No 2	5
" 4,	Bellamy & Taylor No 4	5
" 19,	(Allen farm) Duke & Norton Oil Co No 54	5
" 20,	W F Coast	5
" 36,	John Browning No 2	5
" 47,	Noble & Co No 2	4
" 37,	Perrin & Young, No 11	6
" 37,	" No 12	6
" 86,	Shirley & Hochstetter No 6	6
" 124,	McCalmont Oil Co No 8	6
" 140,	Willetts, Duke & Rauber No 8	5
Wirt, 1,	Applebee Bros No 8	8
" 9,	Kilbury & W lliams	6
" 33,	Wellman, Miner & Fuller	3
" 48,	Love & Co No 1	5
" 48,	Wirt Petrolcum Co No 1	8
" 51,	Empire Gas Co No 5	5
" 51,	(Jordan farm) Lester, Jordan & Co No 4	8
" 51,	Peters & Jordan	5
" 52,	(Burdick farm) Wilson Bros & Ackerly No 7	8
" 63,	(Hyde farm) Ackerly, Barton & Co No 1	5
Bolivar, 7,	Coast Oil Co No 31	5
" 7,	Vosburg Oil Co No 21	8
" 7,	" No 22	10
" 15,	Sawyer & Co	8
" 16,	John Fay	6
" 31,	Smith & Co No 10	6
" 31,	" No 11	8
" 63,	Johnson & Northrop No 15	6
Genesee, 8,	I Willetts No 54	6
" 8,	" No 56	8
Clarksville, 13,	(Congdon farm) Ackerly, Barton & Co No 3	10
" 13,	(Lane) Barton, Ackerly & Co No 5	15
" 13,	(Congdon) J M Congdon No 2	8
" 14,	(Babcock) Ackerly & O'Neill No 1	8
" 14,	(Bradford) Jas O'Neill No 1	8
" 20,	(Ernhout) Ackerly & Samuels No 11	10
" 20,	(Ernhout) Ackerly & Samuels No 14	10
" 20,	(Ernhout) Ackerly & Samuels No 21	10
" 20,	(Zimmerman farm) Clarksville Oil Co No 3	6
" 20,	(Zimmerman farm) Clarksville Oil Co No 4	10
" 20,	(Zimmerman) Hogan & Murphy No 2	8
" 20,	(McDougal) Lord & Whitnall No 2	10
" 20,	(McDougal) Lord & Whitnall No 3	10
" 20,	(McDougal) Mack Oil Co No 2	10
" 20,	(McDougal,) Mack Oil Co No 3	10
" 21,	(Counselman) Anderson & Co No 1	2
" 28,	(Butts) Coast & Finnegan No 2	3
" 28,	(Butts) Coast & Finnegan No 3	8
" 28,	(Butts) Coast & Finnegan No 4	8
" 28,	(Butts) Love, Patterson & Co No 8	8
" 28,	(Butts) Love, Patterson & Co No 9	8
" 28,	(Peckham, W J Penny & Co No 2	5
" 28,	(Peckham) McElwaine & Co No 1	6
" 28,	(Congdon) Ash Warner & Co No 2	4

Wells completed	62
Production	427
Dry	0

Bradford Field.

Taylor Tract, E terprise Transit Co No 36	10
Seward, Kemp & Luney No 2	5
Drake, Melvin, Kennedy & Drake No 15	6
Dikeman, Whitney & Wheeler No 2	8
Pike, J T Jones No 12	10
Newell, " No 21	10
Clark, P Hannan No 3	4
Stinson, Asher Brown No 14	8
Kissam, J Ste theimer No 13	8
Dent, P C L & P Co No 64	6
Bingham, lot 152, Forest Oil Co No 14	6
Taylor, Atlas Oil C No 16	12
" " No 17	12
Warrant 2268, Van Vleck & Mitchell No 34	20
Tomes, Kincaid & Harper No 1	5
Crooker, Jennings & Curtis No 12	6
Craft, Archer & Roy No 14	5
" " No 15 (2d sand)	15
Cranmer, Columbia Oil Co No 6 "	8
Warrant 3908, F E Boden No 1 (2d sand)	3
Melvin, P C L & P Co No 85	5
" " No 86	5
Lafferty, Van Vleck & Gifford No 41	10
Brennan, A W Boyd No —	8
Fisher, Larrabee & Wheedon No 8	6
Turner, Perry Timblin	8
E T C , Kirwin & Co No 1	10
C, B & H R J Straight No 11	6
" Argue & Williams No 5	8
" Bulger & Dana	8
" Watson Oil Co No 38	8
" C Wilder No 6	8
" J S Patterson No 8	8
" Young & Co	8
" Williams & Parsons	8
Van Campen, Wm Doe No 8	8
" Barns tall & Stearns No 7	8
Stevens, Book & Rhodes	8
" C B Whitehead	8
" Coast & Curtis No 5	8
Hamlin, Fo est Oil Co No 35	12
" " No 36	8
Barse, R Buchanan No 5	8
" F S Tarbell	8
Weston, J L McKinney & Co No 4	10
Windsor, Manhattan & Cowles No 2	5
Bingham, Carter E Frawley	10
" lot 548, Union Oil Co No 43	15
" lot 569, " No 41	25
" Ass'd Producers Co No 53	30
" lot 576, Rose & McLeod No 1	30
" l t 576, " No 2	20
" lot 540, T J Melvin No 10	10
Hamlin, Reilly, Hunt & Mullen No 1	3
Emerson, John Gilbert	5
Haskell, Backus & Co	dry
Smethpo t Bo ough, Gas Co (for gas)	gas
Warrant 3076, Union Oil Co No 60	50
" 2243, Emery Oil Co No 42	10
Lot 129, P T & W C Kennedy No 7	8
Lot , Coal Lands, J J Carter No 16	10

Wells completed	61
Production	618
Dry	2

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village,

Wm Marsh, Phillips, Collins & Co No 4	200
Rollin, Anchor Oil Co No 3	6
Wm Harris, Wm Fogel & Co No 5	5
Swift, Swift & Phillips	dry
Morrison, Anch r Oil Co No 3	100

Warren.

Wardwell, Benedict & Rockwell No 25	5
" " No 26	15
Island, Coggswell & Co No 3	6
Irvine, Brown Bros No 8	3
McWilliams, Picket & Stone No 11	8
Lacey, Bradley & McDonald No 5	dry
Hook, McNesmith No 2	3

Wells completed	11
Production	351
Dry	2

Clarendon.

35, Hazeltine & Bell No 8	6
35, " No 9	6
36, Borchert & Smith No 9	6
35 and 53, Thomson & Collins No 12	8
54, O W Beatty & Bro No 36	10
496, " No 11	8
496, Paul Kratzer No 8	8
496, J B McElwaine No 4	6
496, " No 5	8
497, Millison & Heath	5
464, Lockwood & Parsons No 13	6
465, J Smith & S n No 11	6
465, " No 12	6
494, D Riddlesperger No 2	5
494, " No 3	6
493, Bines & Co	dry
499, Kemp & Solliday No 3	6
496, Magee & King No 10	6
499, C C Adams No 6	6
80, D J Thayer, No 11	8
106, F H Rockwell & Co No 9	5
108, Thos Hackett	6
558, Goal Bros No 17	6
558, " No 18	8
557, C C Duffield No 3	5
558, Sam Tait Jr No 40	5
558, " No 41	6
557, Dyson & Louden No 10	5
526, Keatley Bros No 10	5
562, F H Rockwell & Co No 18	10
592, Clark, Foster & Co No 5	8
591, " No 6	10
609, H G Lapham No 1	2

Wells completed	33
Production	207
Dry	1

Tiona.

82, J L & J C McKinney No 5	6
82, " No 6	8
103, (lot 17) " No 1	7
103, (lot 15) " No 17	6
103, " " No 21	8
110, (lot 9) " No 2	8
165, " No 14	6
165, " No 16	6
165, " " No 17	8
111, E O Emerson No 2	4
159, Williams	3
104, R R Armor No 8	5
169, O'Donnell, Hill & Co No 5	6
161, O'Donnell & Tobias No 9	8
165, McKelvey & Best No 12	7
164, Hill & Powell No 5	6
164, Howe, Work & Moore No 1	6
200, Bovee & Duck No 4	5
200, Wesley Chambers No 6	6
204, Mandell Oil Co No 7	6
202, " No 10	8
205, H B Beatty & Co No 15	6
201, R M Brown & Co No 7	6
201, Short & Dunham No 1	8
201, Wesley Chambers No 1	6
240, (Tidewater) E O Emerson No 5	6
240, " " No 6	6
241, F W Winger No 14	8
241, L Kracer & Co No 16	10
244, Horton, Crary & Co No 4	15
215, Shoelkopf, Horton & Co No 3	8
245, " No 4	3
281, (Ford Lease) L Kr eer & Co No 2	8
281, " " No 3	6
284, Watson & Mitchell No 2	5

Wells completed	35
Production	234
Dry	0

Cooper District.

McWilliams, J L McKinney & Co	dry
407, Shank & Stewart	6
408, McCalmont Oil Co No 22	dry
408, " No 23	12
438, Schuyler & Emery No 23	8

Wells completed	5
Production	26
Dry	2

Balltown.

738, Brunsdall Bros	dry
754, Book & Gartlan	dry
3195, (Crissman) N F Clark No 5	dry
3195, " " No 6	30
3195, " " No 7	100
3195, Porcupine Oil Co No 35	15
3197, Balltown Oil Co	dry
4821, " No 26	25
4791, Armor & Co	4

Wells completed	9
Production	174
Dry	4

Miscellaneous.

5214, Schooley, James Welsh No 3	dry
Spring Creek twp, 352, Parish & Bremer	dry
Deerfield twp, Duffield & Co	dry
Sheffield, 276, Warren H & L Co	gas

Grand Valley.

Farrell, G P Kepler No 4	5
Mitchell, W W Hague No 3	4
Southwest twp, 145, Selkirk, Jesse Wheelock	dry

Wells completed	7
Production	9
Dry	5

Lower Country.

Venango.

Farm.	Operator.	Barrels
Biery, Richardson & Hughes		8
McCalmont, S P McCalmont No 18		5
Noble, Octave Oil Co No 7		7
McBride, Smith & Co		5
Lee Hicton, Roess Bros & Co No 9		8
Upper McElheney, J Chandler		dry
Bullion, Balliott, W T Baum		2

Bullion, Cross, Hovis & Co ---- 3
" Cr ss, Power & Co ---- 3
Milligan, Harley & Jack ---- dry
Diamond, J B Smithman No 4 ---- 5
Allison, Fisher Oil Co No 8 ---- 5
Gates (four leases) Fisher Oil Co No 1 ---- 5
Tract 47; " No 7 ---- 15
Mitchell, F W Mitchell No 19 ---- 4
Shaw, Gillespie & o ---- 3
W W Dare, Oil City Fuel Supply Co ---- 2
Lloyd, I N Patterson ---- dry
Gailey, Kugler & Gailey No 10 ---- 10
Handshaw, M Handshaw ---- 3
Columbia, Columbia Oil Co No 162 ---- 10
Mt Hope, Creamer, Galbraith & Shepherd No 3 ---- 10
Philadelphia & Boston Tract, Shultz & Co 6
Rouseville, J Robinson ---- dry
Curtin, George Wratan ---- 4

Rockland.

Hetzler, Dale Bros No 2 ---- 60
D Porter, " No 2 ---- 3
J Jolly, " No 2 ---- 45
D Porter, Goodrich & Salisbury No 2 (est) 30
R Porter, Flynn, Klingler & Co No 1 ---- 40
" " No 2 (est) 5
J Jolly, Duncan & Lowentritt No 1 ---- 70
" " No 2 ---- 60
" Wentling & Mull No 1 (est) ---- 75
David Jolly, Fisher Bros ---- dry

Vicinity Emlenton.

Bailey, Cooper & Co ---- 3
Dr A W Crawford, A A Hopkins ---- 2
Kohlmyer, John Cree ---- 5
R W Porterfield, R W Porterfield ---- 5
J Smith, Sheasley & Co ---- 7
Emlenton, S Kries ---- 5
Weller, John Weller ---- 7
Crawford, Weaver ---- 10
Sloan, Dutton ---- 10
Emlenton, Graham & Co ---- 5
Robinson, Maxwell & Middleton ---- 10
" Duff & Stewart ---- dry

Wells completed ---- 47
Production ---- 586
Dry ---- 6

Clarion.

Cogley Run.

Gibbs, Ashland Oil Co No 9 ---- 40
" " No 10 ---- 40
Fisher, Cogley Oil Co No 4 ---- 50
" " No 5 ---- 50
J M Deitrich, " No 2 ---- 40
" " No 3 ---- 30
Fisher, J B Smithman No 8 ---- 60
" " No 9 ---- 25
Berlin, Patterson & Leedom No 7 ---- 40
" " No 8 ---- 15
John Deitrich, Lovell & Co No 4 ---- 35
Fern, White & Gifford No 6 (est) ---- 40
M P Hess, Koch & Gwttel No 5 ---- 40
Fowles, McCamont Oil Co No 6 ---- 30
" " No 8 ---- 60
" " No 9 (est) ---- 50
Ben Hess, J B Smithman No 8 ---- 40
Barber, Barber No 2 ---- 30
John M Deitrich, Deitrich, Riddell & Co No 5 ---- 40
" Kiser & Co No 3 ---- 30
M P Hess, Urquhart & Lavens No 8 ---- 30
" Gillespie & Co No 2 ---- 30
Fitzhugh, Mahle Bros ---- dry
Heeter, Heeter Bros No 4 (est) ---- 50
" " No 6 ---- 55
" Wolf & Kugler No 3 ---- 40
" Kribbs & Knight No 1 ---- 30
" Three Spot Oil Co No 1 ---- 25
" " No 2 ---- 35
" " No 3 ---- 45
Hess & Sackett, Robert Long No 1 ---- 25
" " No 3 ---- 20
Fye, J M Deitrich & Co No 2 (est) ---- 30
Beals, Beals, Hunter & Co No 3 ---- 30
" " No 4 ---- 30
" Gosser, Weller & Co (est) ---- 5
" Hawn & Morgan ---- dry
" Korner, Bros (est) ---- 8
" William Crawford & Beals ---- dry
" Lockwood & Dickey ---- 10
" Wesley Chambers No 2 ---- 25
" Campbell & Murphy (est) ---- 15
Edmunds' Heirs, Urquhart & Lavens ---- 15
E Slicker, div 1 Wolf & Kugler No 1 ---- dry
" div 3, Austin & McCormick No 1 dry
" div 4, H J Slicker & Co (est) ---- 25
" div 10, Scott, Cox & Bayaham ---- 25
" div 11, S S Fertig & Co No 1 ---- 40
" div 12, Wesley Chambers No 1 40
" div 13, Shaffer & Sheasley No 1 50
" div 13, " No 2 25
Smith, Wolf & Kugler ---- dry
John Henel, Koch Oil Co No 1 ---- 30
Gillingham, Doyle, Gill & Co No 5 ---- 75
" " No 6 ---- 40
" " No 7 ---- 40
" " No 8 ---- 40
Oscar Black, " No 1 ---- 40
" " No 2 ---- 40
" Hess & Sackett No 2 ---- 40
Oscar Black, Hess & Sackett, No 3 ---- 40
" " No 4 ---- 40
Geo Hess, Hess, Snively & Co ---- 30
" H H Stow & Co (est) ---- 30
Phipps, Cowles, Mimm & Co ---- dry
Buzza, Whitehill & Co ---- 8
Sowers, Hite & Walkers No 3 ---- 30
John Kinnemuth, Lovell Rumsey & Co ---- 10
" J M Deitrich, Howe & Co ---- 15
H J Smith, Isaac Mong & Co ---- 4
" J E McIntyre & Co (est) ---- 10
" Shaffer & Sheasley ---- 25
Baum, D J Thayer ---- 5
" John Rowe & Co ---- 3
Even Miller, Crawford, Brothers & Cushing ---- dry
Kinnemuth, Chauncey Oil Co No 7 ---- 45
" " No 8 ---- 50
W L Hess, " No 2 ---- 60
Kinnemuth, " No 1 ---- 5
" " No 2 ---- 40
" " No 3 ---- 30
" " No 4 ---- 10
" " No 5 ---- 35
Weaver, Lewis Caldwell & Co ---- dry
Fred Smith, Kerr & Byers ---- dry
Berlin, Berlin & Son (est) ---- 30
Mong, Hatch & Frederick (est) ---- 10
Paul Black, Crawford & McDonald ---- dry
Widow Deitrick, Staley & McDonald (est) 40
Harmon, Wolf & Fertig No 1 ---- 30
Willow Deitrick, " No 2 ---- 30
Snively, Henry Hess & Co ---- dry
Deer Creek, Whitehill & Co ---- dry
Sligo, Newell & Jones ---- dry
Fox Estate, Fox & Fink ---- 5

Wells completed ---- 95
Production ---- 2543
Dry ---- 14

Butler and Armstrong.

Brownfield, W L Smith & Boyd ---- 12
S Pontius, Hunter & Cummings No 4 ---- 65
" " No 5 ---- 20
Helmbold, Leidecker & Co ---- dry
Muddy Creek, Fisher Oil Co ---- gas
McCandless, Butler Gas Co ---- gas
Fehl, McJunkin & Co ---- 5
James B Caldwell, Phillips Bros ---- 3
Emerick, " ---- 5
Alex Story, Hazelwood Oil Co (est) ---- 20
Wm McLaughlin, Story & Co (est) ---- 15
M Barnhart, Westerman Bros ---- 25
McKeever, Showalter & Hartman (est) ---- 5
Mrs Ort, Westerman & Co No 2 ---- 75
John Frederick, " No 1 ---- 15
D Shekely, McTamany ---- dry

Martinsburg.

Abner Kelley, McKissock, Mildren & Adams No 2 ---- 30
Cannon, Edwards & Co No 3 ---- dry
John Kelley, W A Kelley ---- 15
L P Daubespeck, Shorts, Butler & Co No 3 ---- 30
" Conners & Fishel No 2 40
A Kelley, Hooks Bros No 6 ---- 15
John Say, Wm Arnold ---- 2
Kennedy & Kelley, W J McKee No 2 ---- 20
Donley, Bear Creek Oil Co ---- 2
D P Kelley, Panton ---- 10
Pew, Clark, Foster & Brawley ---- gas
Young, Brawley ---- 3

St. Joe.

Oswald, Bredin, Lappe & Co ---- dry
Kirch, Hite & Co ---- dry
Hesler, Christie Bros No 2 ---- 6

Wells completed ---- 31
Production ---- 438
Dry ---- 8

DRILLING WELLS,

RIGS UP AND BUILDING OCTOBER 31, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
2,	Allen & Sterlberg No 9	drilling
2.	Coast Oil Co No 37	drilling
2	" No 38	rig bldg
2,	Pennell & Co No 2	drilling
3,	Coyle (old)	rig
4,	Mackin & Breckenridge No 12	drilling
4,	" No 13	rig bldg
11	(O Norton) Maxson Oil Co No 8	rig
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 7 (fishing)	sand
12,	" No 10 (old)	rig
50,	Union Oil Co (old)	2 rigs
51,	Duke & Norton Oil Co No 54	drilling
51,	" No 55	rig

New rigs ---- 4
Old rigs ---- 5
Drilling ---- 6

Total ---- 15

Alma.

3, Triangle Oil Co No 17 ---- sand
3, " No 8 ---- rig
12, (Dugan) Dan Kane & Co No 1 ---- rig
19, (Allen farm) Duke & Norton Oil Co ---- drilling
19, (Allen farm) Duke & Norton Oil Co ---- rig
20, W F Coast ---- drilling
23, Vance & Horton (old) ---- 3 rigs
24, New Milford Oil Co (old) ---- 2 rigs
24, W F Jones (old) ---- rig
26, Willetts & Elliott (old) ---- rig
36, John Browning No 3 ---- rig bldg
38, Pikeville Oil Co No 8 ---- drilling
51, Sawyer & Co (old) ---- rig
78, Torry & Pirden No 3 (old) ---- rig
81, Shirley & Hochstetter No 3 ---- drilling
85, (Costello) " No 1 ---- drilling
85, (Martha) " No 1 ---- rig bldg
86, Shirley & Hoehstetter No 7 ---- drilling
85, Asso'd Producers' Co No 3 ---- rig
88 Duke & Co (old) ---- rig
109, Shirley & Hochstetter No 1 (old) rig
120, McCalmont Oil Co No 9 (fishing) drilling
120, " No 10 ---- rig bldg
140, Willetts, Duke & Rauber No 9 ---- drilling
142, Dean & Smith No 5 (old) ---- rig

New rigs ---- 7
Old rigs ---- 12
Drilling ---- 9

Total ---- 28

Wirt.

1, Applebee Bros No 9 ---- rig
14, Lester & Co (old) ---- rig
33, Wellman, Miner & Fuller ---- drilling
33, Stewart Bros ---- drilling
33, Hazelwood Oil Co (for gas) ---- 500
34, Empire Gas Co No 2 ---- sand
34, " No 3 ---- rig
42, Geo C Knox & Co ---- sand
43, " ---- 2 rigs
48, Hatch & Phillips No 2 ---- drilling
48, Nile Oil Co No 4 ---- rig bldg
48, Wirt Petroleum Co No 2 ---- drilling
48, " No 3 ---- rig bldg
48, A R Dougherty & Co No 1 ---- rig
48, Love & Co No 2 ---- rig bldg
49, Booth & Barton No 1 ---- drilling
51, (Jacob Jordan) Lester, Jordan & Co No 1 ---- rig
52, (Shaw farm) E T Johnson No 3 ---- sand
52, " No 4 ---- rig
52, Johnson, Lovell & Rumsey (old) 2 rigs
52, Wilson, Bros & Ackerly No 8 ---- rig
52, J H Snow, No 2 ---- drilling
52, T Clemenger No 1 ---- sand
55, P M Shannon & Co No 1 ---- 500
60, A B Cottrell No 1 ---- 600
62, (Burdick) Barton, Hammond & O'Neill No 1 ---- rig bldg

New rigs ---- 12
Old rigs ---- 3
Drilling ---- 13

Total ---- 28

Bolivar.

7, Coast Oil Co No 34 ---- sand
7, " No 37 ---- rig
7, " No 40 ---- drilling
23, Irwin & Morgan ---- 800
23, F C Streeter & Co No 9 ---- 1000
24, Riley Allen No 6 ---- drilling
30, Fritz & Lowry No 8 (old) ---- rig
30, " No 10 (old) ---- rig
33, (Perry farm) D A Newton No 1 drilling
33, " " No 2 rig bldg
45, (Cooper) John Knox & Co ---- sand
63, Johnson & Northrup No 16 ---- rig

New rigs ---- 3
Old rigs ---- 2
Drilling ---- 7

Total ---- 12

Genesee.

14, (Bliss) C W Seofield No 13 ---- rig bldg
14, Merwin (old) ---- rig
21, Empire Gas Co (old) ---- rig
22, " No 15 (old) ---- rig
22, " No 16 (old) ---- rig
22, " No 17 (old) ---- rig
22, " No 18 (old) ---- rig
22, " No 19 (old) ---- rig
23, Hughes & Conghlin (old) ---- rig
24, Emery Oil Co No 9 ---- rig
24, " No 10 ---- rig bldg
24, Dusenbury & Wheeler No 4 ---- drilling

24, Champlain Emery Oil Co No 8 drilling
29, William Cranston (old) rig
38, S E Young (old) rig

New rigs 3
Old rigs 11
Drilling 2
Total 16

Clarksville.

1, I Willetts drilling
3, (S Bartow) National Transit Co for gas No 63 rig
6, (Hamilton farm) Ackerly, Barton & Co No 7 drilling
6, (Wetherbee) Ackerly, Barton & Co No 8 drilling
6, (Scever) Ackerly, Barton & Co No 9 drilling
6, (Swartout) Ackerly, Barton & Co No 10 drilling
9, Heuston & Brecht No 4 (old) rig
9, Merritt (old) rig
10, Angell Oil Co 1000
10, " rig
10, Whipple & Davis No 11 drilling
10, Stecle & McKelvy 800
12, National Transit Co No 61 (for gas) drilling
12, (Thurston) Ackerly & Samuels No 26 rig
13, (Wixon) Bronson, Sharp Ackerly No 2 drilling
13, (Congdon) J M Congdon No 3 drilling
20, (Ernhout) Ackerly & Samuels No 6 rig
20, " " No 9 rig
20, " " No 10 rig
20, " " No 13 rig
20, " " No 20 drilling
20, " " No 22 rig bldg
20, " " No 23 ri
21, (Holmes) " No 27 rig bldg
20, (McDougal) Mack Oil Co No 4 drilling
20, " " No 5 rig bldg
20, " " No 6 rig bldg
20, " Love, Patterson & Co for gas rig
20, (Zimmerman) Clarksville Oil Co No 5 drilling
20, " Clarksville Oil Co No 6 drilling
28, (Butts) Coast & Finnegan No 5 drilling
28, " " No 6 rig bldg
28, " " No 7 rig bldg
28, " Love, Patterson & Co No 10 drilling
28, " " No 11 rig bldg
28, (Peckham) W J Penny & Co No 3 drilling
28, (Congdon) A Warner & Co No 3 rig
35, Dow & Snyder No 1 900

New rigs 17
Old rigs 2
Drilling 19
Total 38

Miscellaneous.

Steuben County (Howard twp) Van-Campen, Lovell & Co drilling
Willing, Barnum & Co rig bldg

New rigs 1
Old rigs 0
Drilling 1
Total 2

Bradford Field.

East and West Branches.

Drake, H C Zeigler, No 4 rig
Deiter, Book & Hawkins No 5 50
Dent, Whitney & Wheeler No 40 (old) rig
" P C L & P Co No 65 drilling
Newell, J T Jones No 22 1200
" " No 23 1200
" " No 24 rig
" " No 25 rig
Drake, " No 24 rig
Clark, P Hannan & Co No 4 drilling
" Rolfe Bros No 27 drilling
Donnell, Wilbur Bros sand
" " rig
Cary, W H Duncan No 4 (old) rig
Moody, Emery Oil Co No 105 sand
" " No 106 rig
Bingham, lot 186, R J Straight No 4 350
" lot 189, Amm & Co No 63 1850
" lot 190, " No 64 600
" lot 190, " No 65 drilling
" lot 154, Union Oil Co No 18 1000
Tuna't Coa Lands, Waugh & Porter No 6 drilling
Warrant 2268, R J Straight No 15 00
" 2268, " No 16 rig
Stinson, Connolly Bros No 3 drilling
Kissam, Chapman & Co drilling
Craft, Archer N Roy No 16 rig
" " No 17 drilling
Crooker, Geo Crooker 250
" E A Boyne No 1 drilling
Cranmer, Columbia Oil Co No 7 rig
Mack, " (old) rig
Mack, Fisher Bros No 19 (old) rig
Nelson, O'Connell & George (old) rig
B O Co, Western Oil Co No 2 drilling
" " No 4 rig
Hatfield, Wesley Chambers rig
Blair, J J Carter No 26 1000
Mack Lands, F E Boden rig
Brown, W C Ward No 2 100
Boss, Smiley & Howe No 1 rig bldg
Young lot, A W Newell & Co No 1 rig
Scott, J H VanWormer No 4 sand
Seward, Kemp & Laney No 3 rig
Taylor Tract, Ent Transit Co No 37 100
" " No 38 rig bldg
Hinchey, McMurray Bros No 6 (old) rig
Whittaker, Frank Davis No 3 drilling
Paton, McClure & Co (old) rig
Clark, McCray Bros (old) rig
Willis, do (producing) 550

Quintuple.

23, C W Scofield (old) rig
44, J W Humphrey (old) rig
220, Clark, Stearns & Co (old) rig
260, E T Howes (old) rig
105, Smith Seamen & Co rig
94, J Stettheimer No 7 drilling
—, Camp & Zane No 13 rig
175 W L Curtis & Co No 12 800

New rigs 18
Old rigs and shut down 13
Drilling 28
Total 59

Kendall Creek.

Melvin, P, C L & P Co No 87 drilling
Monroe, Tarbell & Co drilling
Borden, Urquhart & Lavens (old) rig
" " No 43 rig
Brennan, A W Boyd drilling
Willets, I Willets sand
" Neath Bros 600
" Howe Bros No 12 rig bldg
" " No 13 rig bldg
Farr, Hazelwood Oil Co No — rig
Turner, Perry Timblin 500
Fisher, Larrabee & Whedon No 9 rig

New rigs 5
Old rigs 1
Drilling 7
Total 13

Knapp's Creek.

Morton, Dan Clark No 4 drilling
VanVleck, H M Miles drilling
" " rig bldg
Cummings, H T Breese drilling
Baum, R Jennings & Son No 10 drilling
" " No 11 rig
Norton, F W Mitchell drilling
White, Mitchell & Jones No 73 rig
Matthews, C B Whitehead rig
Oil Valley, J B Daniels & Co No 19 drilling
" " No 20 rig bldg

New rigs 5
Old rigs 0
Drilling 6
Total 11

Foster Brook.

E T Co, Kirwin & Co No 2 drilling
" " No 3 rig
" H Schaulis No 1 drilling
" " No 2 rig bldg
Forest Oil Co, Letson Bros No 4 200
C B & H, Page, Walker & Co No — sand
" " No 4 rig
" Juter & Yager (old) rig
" R J Straight No 12 rig
" R Y Mitchell No 12 drilling
" " No 13 rig
" Young & Co drilling
" Watson Oil Co No 39 sand
" " No 40 rig
" " No 41 rig bldg
" " No 42 rig bldg
" J S Patterson, No 9 50
" M Mandeville No 7 rig bldg
Tew, H W Tew drilling

New rigs 9
Old rigs 1
Drilling 9
Total 19

Four Mile.

Van Campen, Wm M Brown (old) rig
" Barnsdal & Stearns No 8 drilling
" " No 9 rig
" " No 10 rig
Waters, Griffin & Howard No 2 (old) rig
C B & H, James Smith drilling
Stevens, Coast & Curtis No 6 drilling
Stevens, Book & Rhodes drilling
" Wm Stevens & Son 400
Fries, Franchot Bros rig
Zaph, " rig bldg
Burlingame, Union Oil Co No 7 rig bldg
Kamery, C V B Barse 1300

New rigs 5
Old rigs 2
Drilling 6
Total 13

Indian Creek.

North Branch, J D Downing & Co (old) 2 rigs
Morse, Morse & Brown (old) rig
Ellis, C P Collins & Co rig
Hamlin, Miller & Odell No 4 (old) rig
" John Oberlin 100
" Forest Oil Co No 37 drilling
" Sherman & Levens No 6 drilling
Zimmer, Forest Oil Co No 7 800
" " No 8 rig bldg
Cooper, " No 5 350
" C P Collins No 1 800
Barse, Union Oil Co. No. 37 sand
" Reeves & Bussell No 7 drilling
Ballard, L H Ballard 50
Weston, J L McKinney & Co No 5 drilling
Lee & Hallock, " No 6 rig
Templeton Pur, P. A. Templeton drilling

New rigs 3
Old rigs 4
Drilling 10
Total 17

Cole Creek.

Warrant 2263, Union Oil Co No 6 (old) rig
" 2263, " No 7 (old) rig
Bingham, lot 536, " No 31 sand
" lot 495, " No 3 (old) rig
" lot 496, " No 1 500
" lot 497, " No 1 sand
" — Asso'd Prod's Co No 54 1500
" — " No 55 rig bldg
" lot 5 8, C P Byron No 3 rig
" lot 538, " No 4 rig
" lot 577, Rose & McLeod No 5 rig
" lot 540, T J Melvin No 11 drilling
" lot 369, Bennett & Thompson No 10 rig
" lot 440, Platt & Say No 9 700
" lot 382, C W Scofield No 50 rig bldg

New rigs 6
Old rigs 3
Drilling 6
Total 15

Kinzua.

Warrant 3084 Union Oil Co No 61 300
" 2243, Emery Oil Co No 43 1000
" 2243, " No 44 200
" 2243, " No 45 rig bldg

New rigs 1
Old rigs 0
Drilling 3
Total 4

Miscellaneous.

U O Co, Van Scoy & Rapp sand
Warrant 3669, sub 137 P F Kearns 500
" 8712, C C Joy drilling
Five Mile Run, (Olean) Thompson & Veazie 350
Port Allegheny, (Eastwood) Wolf & Wilcox drilling

New rigs 0
Old rigs 0
Drilling 5
Total 5

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village.

Marsh, C P Collins & Co No 2 (old) rig
" " No 3 (old) rig
Wm Marsh, Phillips, Collins & Co No 5 rig
Fuller, Pliny Parker & Co sand
Rollin, Borchert & Smith No 3 (old) rig
Wm Harris, Wm Fogel & Co No 6 sand
" " No 7 rig
" " No 8 rig bldg
English, Brown & Collins No 2 (old) rig
Culbertson, Porter & Conley 800
Morrison Heirs, Anchor Oil Co No 4 sand
" " No 5 rig
3729, (McClellan) Pickett & Stone 100
3726, (J D Harris) Boyce, Duck & Co 600
Wilkinson, Parker & Nelson rig bldg

Wardwell, Benedict & Roekwell, No 27 700
" " No 28 200
" " No 29 ..... rig
" King & Windsor 700
2428, Unknown ..... drilling
2921, (Mead) Miller & Odell No 2 ..... drilling
2921, " C C Duffield & Co ..... sand
2978, (Kinzua) S B Logan ..... rig bldg
Rankin, McWilliams Bros ..... sand
McWilliams, Pickett & Stone No 12 ..... rig bldg
Lacey, Bradley & McDonald No 6 300
Davis, Davis Bros No 6 ..... rig
Shultz, John Shultz No 3 200
Rogers, Barnsdall Bros No 14 (old) ..... rig
" " No 15 (old) ..... rig

New rigs 9
Old rigs 6
Drilling 15
Total 30

Clarendon.

35, Hazeltine & Bell No 10 ..... rig
35, Henderson & Murphy No 3 ..... drilling
36, Borchert & Smith No 10 ..... rig bldg
54, O W Beatty & Bro No 37 ..... rig
78 " (old) ..... 2 rigs
496, " No 12 600
496, " No 13 ..... rig
496, Fred Hue No 10 100
496, " No 11 400
496, J B McElwaine No 6 350
496, " No 7 ..... rig
465, J Smith & Son No 13 100
464, Lockwood & Parsons No 14 ..... rig
—, Wm Pagett ..... rig bldg
499, Munroe & Finnegan No 6 ..... sand
463, J B McElwaine & Co No 4 400
495, S M Ross & Co No 1 200
495, " No 2 ..... rig
80, Tucker ..... rig bldg
80, Johnson & Irvine No 4 10
80, " No 5 ..... rig
80, " No 6 ..... rig
80, D J Thayer No 12 100
104, " No 1 1000
104, " No 2 ..... rig bldg
105, Bradley No 6 00
105, Sam Tait Sr No 1 100
105, R I Shugert 100
105, " ..... rig bldg
107, W B Roberts & Son No 15 200
108, Fay & Lawton (old) ..... rig
106, Ross & Hopewell No 1 ..... rig
106, " No 2 ..... rig bldg
162, J A Dower No 5 ..... rig bldg
530, Goal Bros, No 5 ..... rig
530, " No 6 ..... rig
530, H B Porter No 13 ..... rig
531, Alfred Short & Co No 2 400
531, " No 3 ..... rig
531, " No 4 ..... rig bldg
557, C C Duffield No 4 ..... rig bldg
558, Sam Tait Jr No 42 200
558, Goss, Goal & Haskell No 4 150
558, " No 5 ..... rig
558, Farbell & Co 300
526, Keatley Bros No 11 ..... sand
526, " No 12 ..... rig
527, F H Rockwell & Co No 17 ..... rig
527, " No 18 ..... rig
527, " No 19 800
540, A L Keru ..... sand
591, Clark, Foster & Co No 7 300

New rigs 26
Old rigs 3
Drilling 24
Total 53

Tiona.

81, Dr Jenkins ..... rig bldg
83, King & Magee ..... rig bldg
83, Bonita Bros No 1 ..... sand
83, " No 2 ..... rig bldg
59, J L & JC McKinney (shut down) ..... sand
82, " No 7 ..... rig
82, " No 8 ..... rig
103, (lot 17) " No 2 ..... drilling
103, " " No 3 ..... rig
103, " " No 4 ..... rig
103, " " No 5 ..... drilling
103, " " No 6 ..... drilling
103, (lot 15) " No 10 ..... rig
103, " " No 18 ..... drilling
103, " " No 19 ..... rig
103, " " No 20 ..... rig
103, " " No 22 ..... drilling
103, " " No 23 ..... rig
104 " No 8 ..... drilling
110, (lot 9) " No 1 ..... rig
110, " " No 3 ..... drilling
165, " No 13 ..... drilling
104, R R Armor No 9 ..... sand
104, " No 10 ..... rig
159, Williams No 2 ..... rig bldg
111, Wheedon & Sheurer No 1 ..... rig bldg
161, O'Donnell & Tobias No 10 ..... rig
161, O'Donnell & Hill No 2 ..... rig bldg
—, E O'Donnell No 4 ..... drilling
164, Howe, Work & Moore No 2 ..... drilling
165, McKelvy & Best No 13 ..... rig
200, Bovee & Duck No 5 ..... rig
200, Wesley Chambers No 7 ..... drilling
204, Mandell Oil Co No 8 800
202, " No 9 ..... rig
202, " No 11 ..... rig bldg
203, Booth & Co No 3 ..... sand
205, H B Beatty & Co No 16 ..... rig
205, J R Kuhn & Co No 2 200
201, R M Brown & Co No 8 ..... rig
201, Short & Dunham No 2 800
201, L H Best No 6 ..... drilling
201, " No 7 ..... rig bldg
201, Wesley Chambers, No 2 ..... rig
201, " No 3 ..... rig
201, Helm & Mealey ..... drilling
202, E O Emerson No 2 700
202, " No 3 ..... rig
240, F W Winger No 1 ..... rig
240, (Tidewater) E O Emerson No 7 ..... rig
240, Cochran Bros No 5 ..... rig
240, S C Rhodes No 1 ..... drilling
241, L Kraeer & Co No 17 200
241, " No 18 ..... rig
243, Cochran Bros. No. 3 (old) ..... rig
244, Horton, Crary & Co No 2 ..... rig
244, " No 5 ..... sand
244, " No 6 ..... rig
245, Shoelkopf, Horton & Co No 5 200
281, (Ford lease) L Kraeer & Co No 4 ..... sand
281, " " No 5 ..... rig
281, Horton, Crary & Co No 1 ..... rig
281, " No 2 ..... rig
281, " No 3 ..... rig
284, Watson & Mitchell No 3 ..... rig bldg
284, Hackett & Shirley No 2 ..... rig

New rigs 39
Old rigs 2
Drilling 25
Total 66

Cooper District.

E T Co, Fertig & Henne ..... sand
Lacey, Jos Clinton ..... rig
401, Anchor Oil Co (shut down) 1280
407, Shank & Stewart No 9 ..... rig
407, " No 10 600
407, " No 11 300
408, McCalmont Oil Co No 24 ..... drilling
408, " No 25 ..... drilling
408, " ..... rig
407, Cochran Bros ..... rig
438, Schuyler & Emery No 25 ..... drilling

New rigs 4
Drilling 7
Total 11

Balltown.

740, Harry Dufur ..... sand
3195, (Crisman) N F Clark No 8 ..... drilling
3195, " " No 9 ..... rig
3195, (Stone) " No 6 600
3198, Ragan & Goff 1200
4821, Balltown Oil Co No 27 ..... rig bldg
4821, " No 30 ..... rig
4792, Howe Oil Co No 19 800
4791, Steelsmith & Ross ..... drilling
5215, May, Kelley & Grandin No 37 ..... sand
215, " No 38 ..... rig
5215, " No 39 ..... rig bldg
3195, Porcupine Oil Co No — ..... drilling

New rigs 5
Old rigs 0
Drilling 8
Total 13

Miscellaneous.

McKean, 214, (Blanchard farm) Curtis ..... drilling
McKean, 3767, White & Clemenger ..... sand
McKean, 372, (Hobbs) Calhoun & Co ..... drilling
Waldred twp, 142, Roy & Jamieson ..... rig
Forest, 3561, W B Roberts No 2 ..... sand
Elk Co. 3781, Filkins ..... rig bldg

Grand Valley.

Selkirk, Kepler & Stewart No 5 ..... rig
C H Emerson, G P Kepler No 5 ..... sand
Proper, W W Hague No 3 ..... rig
Milo Emerson, " No 1 500
Campbell, Wood & McKelvey ..... rig
Spring Creek, (Gilson farm) M Stewart No 2 ..... sand
Jas B Kerr, M Stewart (fishing) 600

New rigs 5
Old rigs 0
Drilling 8
Total 13

Lower Country.

Venango and Other Sections.

Biery, Graham & Co ..... rig
Gray, Anchor Oil Co 100
Lovell, " ..... drilling
McCalmont, S P McCalmont 1400
" " ..... rig
McCormick, Phinney & Co No 3 ..... rig bldg
Noble, Octave Oil Co No 8 ..... rig
Grandin, Milton Stewart ..... sand
Pit Hole, (Lamb farm) Shoemaker & Co ..... drilling
" " W Rifenburg ..... rig
Kerr, U C Welton ..... drilling
A Stewart, M B McManus ..... rig
Pet Center, Tarr farm, Kulp & Co ..... sand
Griffin, Purtell ..... rig
Simms, Kulp & Co ..... rig
Harrison, Anchor Oil Co ..... rig
McElheney, P W McCray ..... rig
McKinney, Geo Ready ..... sand
McCray, Wm McCray ..... drilling
Hasson, Hasson ..... drilling
Shaw, Williams ..... rig
Titusville, Moffat ..... rig bldg

Mt. Hope.

Baltimore Tract, Shultz No 3 ..... drilling
Harrington, Galbraith & Shepard No 4 100
Bruner, " No 1 ..... rig
Osmer, Galbraith & Parker ..... rig bldg
Vincent, Dr Galbraith ..... rig
Winger, (Cornplanter) Porter, Galbraith & Sheasley 200
Kaufman, P H Judd No 7 ..... sand
Wm Cromer, Reed & Co ..... rig
Sawtown, J B Smithman ..... rig
Lloyd, Franklin Oil Co ..... rig
" Long & Ritts ..... rig
Rembold, Shaffer & Dale ..... drilling
——, Cornwall & Hasson ..... rig
Webb, Taylor & Torrey (shut down) ..... sand
Wm Hill, " 500
Stover, Calhoun ..... rig bldg
Tarkill, Tarkill Oil Co 600
Gailey, Kugler & Gailey No 11 ..... sand
" " No 12 ..... rig
Pyle, Koch Bros & Co 600
Remburg, Hoover & Co ..... rig bldg

Bullion.

Hovis, W J Hovis ..... 2d sand
Crawford, McFadden & Co 500
Hovis, Gilbert & Co 400
Vanderlin, Hollister & Co ..... rig
Baker, Baum & Co ..... rig
A J Surena, Hoffman & Co ..... rig
Balliott, W T Baum 500
Young, John Lee & Co ..... rig
Nuffer, Oil City Fuel Supply Co ..... drilling
Diamond, J B Smithman, No 5 ..... drilling
" Darr & Manning No 8 ..... rig bldg
Oberly, J H Oberly No 6 300
McPherson, Oil City Fuel Supply Co No 5 ..... drilling
Hogue, " ..... rig
Pioneer, H R Davis ..... drilling
Allison, Fisher Oil Co No 9 ..... drilling
Morrison, Fisher Oil Co No 5 ..... drilling
Gates, (4 leases) " No 2 ..... rig
Tract 47, " No 8 ..... rig

Rockland.

R Porter, Flynn, Klingler & Co No 3 500
" " No 4 ..... rig
D Porter, Dale Bros No 3 ..... rig
Hetzler, Dale Bros No 3 600
" " No 4 200
Batten, " No 2 ..... rig
Black Heirs, " ..... rig bldg
J Jolly (school house lot) Duncan & Lowentritt 600
D B Hetzler, Duncan & Lowentritt 100
J Hetzler, Wentling, Mull & Co No 2 200
Parson, Jamieson & Furniss No 2 600
Wick, Pifer 700
Bishop, Bishop Bros ..... rig
David Jolly, Fisher Oil Co No 2 ..... rig bldg
D B Hetzler, Rider & Simpson ..... rig bldg
Cox, Forest Oil Co ..... rig
Jas Jolly, Wentling & Moll ..... rig bldg
Parson, Porter, Waugh & Co ..... rig bldg
Jas Jolly, Leckey & Co No 1 ..... rig bldg
John Hetzler, H P Boyd & Co ..... rig bldg
Bell, Fisher Bros ..... rig bldg
Prior, Jack & Co ..... rig

Vicinity Emlenton.

Eli Osman, N Mackin (old) ..... rig
J M Black, Weible & Boyce ..... sand
D Russell, Baum & Co ..... rig
J Smith, Sheasley & Co ..... rig
Weller, John Weller ..... rig
Cross, S W Phillips 200
Jew Tract, Jamieson & Thomas ..... sand
Porterfield, A A Hopkins ..... rig
Beals, Pattorf & Young ..... rig bldg
Royal, Wilson Bros (old) ..... rig
Grant, Bennett & Allen No 3 (old) ..... rig
Thompson, Sherwood & Co (old) ..... rig
Leewalter, Leewalter ..... sand
Leslie Sloan, Auker ..... rig
Lawrence, Griffin ..... rig
Grant, Venture Oil Co ..... rig bldg
Sloan, Black & Crawford ..... rig
Crawford, C J Crawford ..... rig bldg
Dr Crawford, J Black ..... rig
Jamieson, Ziegler & Co 500

New rigs 56
Old rigs 4
Drilling 44
Total 104

Clarion.—Cogley Run.

Gibbs, Ashland Oil Co No 11 (old)... rig
" " No 12 (old)... rig
" " No 13 (old)... rig
" " ..... sand
Rickenbrode, " No 5 (old)... rig
" " No 6 (old)... rig
" " No 7..... rig bldg
" " No 8..... rig bldg
Strutman, H C Zeigler No 1 (fishing) 500
J M Deitrich, Cogley Oil Co No 4... 100
Conrad Kinnemuth, Cogley O Co No 1 400
Fisher, J B Smithman No 15..... rig bldg
" " No 16..... rig bldg
Berlin, Patterson & Leedom No 9.... 900
" " No 10... rig
" " No 11... rig
Shippen, " No 2.... 100
Ray, Blackwell & Co (old)..... rig
John Deitrich, Lovell & Co No 5.... sand
" " No 6.... 400
" " No 7.... rig
" " No 8.... rig
" " No 9.... rig bldg
Fern, White & Gifford No 5..... 500
" " No 7..... rig
Fisher, Staley, McDonald & Deitrich (old)..... rig
Young, Hale, Moriarty & Co No 4 (fishing)..... 600
" Staley & McDonald No 7.... rig bldg
Fowles, McCalmont Oil Co No 10..... sand
" " No 11..... 700
Ben Hess, J B Smithman No 9..... sand
Crownoble, " No 1 (fish'g) 600
" " No 2..... 200
Barber, Barber No 3..... 200
John M Deitrich, Kiser & Co No 4... 600
" J M Deitrich, Riddle & Co No 6... 600
" Holt & Morrison No 2 600
" " No 3 100
" " No 4 rig bldg
Heeter, Heeter Bros No 3..... 800
" " No 5..... 100
" " No 7..... rig bldg
" Wolf & Kugler No 4..... rig bldg
" Kribbs & Knight No 2..... 600
" Thos Hulings No 2..... 700
W L Hess, Emlenton Oil Co No 3.... 200
" " No 4.... rig bldg
" S P Morrison No 2..... sand
" Hess Bros No 3..... 100
" W L Hess..... rig bldg
Beals, Beals, Hunter & Co No 5..... 200
" " No 6..... rig
" Brown, Whitehill & Co (old) rig
" Kiser & Hollenshead..... 800
" Shippen, Woodburn & Co..... 900
" Wesley Chambers No 3..... 900
" Koch Bros, Feeley & Co No 1. 700
Shorts, P H Judd & Co No 4..... 3 0
Edmunds' Heirs, Urquhart & Lavens No 2..... 700
" " No 3..... rig
" " No 4..... rig bldg
E Slicker, div 1, Knight & Koch (old) rig
" div 2, Wolf & Kugler No 2 (old)..... rig
" div 4, H J Slicker & Co No 2 rig bldg
" div 5, Wilson & Co..... rig
" div 6, Koch Bros & Maxwell No 1..... 1000
" div 9, G Utzinger & Co... 800
" div 10, Scott, Cox & Baynham..... rig
—Slicker, div 11, S S Fertig & Co No 2 500
" div 11, " No 3 rig
" div 12, Wesley Chambers No 2..... 800
" div 12, Wesley Chambers No 3..... rig
" div 13, Shaffer & Heasley No 3..... rig
" div 13, Shaffer & Heasley No 4..... rig bldg
Smith, Wolf & Kugler..... rig
John Henel, Koch Oil Co No 2..... 800
" " No 3..... 400
" " No 4..... rig bldg
Amos Strutman, Booth, Gifford & White (old)..... rig
Hess, L Oil Co No 1..... 500
" " No 2..... rig
" Kerr & Berringer No 1..... 900
" " No 2..... 800
J M Deitrich, Booth, Gifford & White No 1..... 300
" " No 2..... 100
" " No 3..... rig
John Deitrich, Telegraph Operators' Oil Co No 1..... 700
" " No 2..... rig bldg
" Kale Bros & Co..... 200
Gillingham, Doyle, Gil & Co No 9... 700
" " No 11.. 100
" " No 12.. 400
" " No 13.. rig
Black, Doyle, Gill & Co No 3..... 300
" " No 4 50
" Hess & Sackett, No 5..... 300
" " No 6..... 100
" " No 7..... rig
" " No 8..... rig
" " No 9..... rig bldg
Geo Hess, W H Milligan No 1 (fish'g) 1000
" " No 2 500
" " No 3 ..... rig bldg
" H H Stow & Co No 2..... rig
" " No 3..... rig
Sowers, Hite & Walters No 2..... 800
" Sheasley & Shaffer No 1 (fish'g) 650
" " No 2 " 800
John Kinnemuth, J M Deitrich & Co No 2..... 900
H J Smith, Geo LeFlemme & Co.... 800
" " ..... rig
" Swartzfeger & Co..... 400
" " ..... rig bldg
Baum, Berlin & Co No 3..... drilling
" " No 4..... rig
" " No 5..... rig bldg
" McClellan & Co 700
Kale, Hite & Co No 2..... 100
Kinnemuth, Chauncey Oil Co No 9... 600
" " No 10.. 100
Buzza, D J Thayer..... rig
Kinnemuth, (Zeigler Pur) Chauncey Oil Co No 6..... 400
" Chauncey Oil Co No 7... rig bldg
School House Lot, Frampton Oil Co 50
Widow Deitrich, Wo & Nertig No 2 200
" " No 3 rig
" " No 4 rig
Catherman, Weaver & Taylor..... 700
J Catherman, Cogley Oil Co No 1... rig
Widow Deitrich, " No 1... rig bldg
C F Stumpner, John M Deitrich & Co 100
Henry Weber, Hall & Kepler..... 160
J Berlin, Shaffer & Sheasley No 1... 100
Wm Mong, Heasley & McGee..... 900
Even Miller Pierce & Robinson (fish'g) 900
Long, R J Nicholson (old)..... rig
Leslie, Swartz, Feger & Co..... rig
" Martin & Co..... rig bldg
Frittz, Mrs Joseph Wood..... 600
Berlin, Berlin & Son No 3..... rig
Harmon Young & Roess Bros..... rig bldg
" Phipps & Martin ..... drilling
" " ..... rig bldg
Conrad Kinnemuth, Moore & Co.... rig
B B Mimm, Peter Fertig & Stewart 100
Scott Mimm, " rig
Widow Deitrich, Staley & McDonald No 2.. sand
" " No 3.. rig
" " No 4.. rig
" " No 5.. rig
" " No 6.. rig bldg
" " No 7.. rig bldg
" " No 8.. rig bldg
" J M Deitrich & Co. 300
Scheffler, Hall & Kepler No 2..... 200
Erley, Glatzenau..... rig bldg
R Weaver, Short, Chambers & Whitehill..... rig
M Neeley, Calvert & Co..... rig bldg
R Weaver, Mortimer, Perry & Co... rig bldg
A Mong, Frederick, Hatch & Chambers..... drilling
" Crawford, Wentling & Co.. rig
" Hess & Sicket..... rig bldg
W Mong, Frederick & Hatch..... rig bldg
Fox Estate, Fox & Fink No 26..... 100
Panton, Panton (old)..... rig
Baker, Irving..... 800
Scotch Hill, Unknown ..... drilling
" " ..... rig

New rigs..... 70
Old rigs 13
Wells drilling..... 85

Total 168

BUTLER AND ARMSTRONG.

Various Sections.

Kesselman, Bott & Story (old)..... rig
J Pontius, Lynch & Co (old)..... rig
S Pontius, Huntley & Cummings No 6 200
" " No 7 (old) rig
Mars Station, Belford, Clark & Puzzy 1400
" Kennedy, Crawford & Co 1350
Muddy Creek, Fisher Oil Co ..... drilling
" " ..... rig
Duffey, Boyd & Armstrong..... 1200
Keelting, Bruner & Co..... 1340
Keister, G G Stage & Co..... 700
O'Brien, Reep & Sutton ..... sand
McCandless, Reiber..... sand
Deer, Kunkle & Co. 1565
Behm, Lappe 1280
Denny, Hatch & Co (old)..... rig
Logan, McCandless & Co ..... rig
Thos Mechlin, Phillips Bros..... 1425
Barr, " 1300
Jamieson, Thos Jamieson ..... rig bldg
Rowe, Allegheny Oil Co 650
Humes, Reatt, Hunter & Cummings rig
Gallagher, " No 3 1000
Leithold, " No 2 400
I B Steele, R Jennings No 11..... rig
Jamieson, Thos Jamieson..... rig bldg
Jenkins, McKay & Co (fishing)..... 300
Mrs Ort, Westerman & Co No 3 ..... rig bldg
John Frederick, " No 2..... rig bldg
Tittley, Tutley & Co..... sand
Eminger, S M Boyd, & Co..... 1000
M Myers, Sabline, Hooks & Co..... 1400
Joseph Hartman, Dale, Bruce & Larkin 1300
Black, Ross, Reynolds & Co (old)... rig
James McBride, Brady & Co..... 800
Thompson, Fisher Oil Co..... 800
Beisenbach, " ..... drilling
Smith, " ..... rig bldg
Rodgers, Reep & Sutton..... rig
McCrea, W L Smith & S M Boyd.... rig
Harsman, McJunken & Co..... 1200
Miller, Dennison..... 200
George King, W S McCullough 500

Martinsburg.

Cannon, Edwards & Co No 4..... rig
R H Campbell, Campbell & Co ..... drilling
John Kelley, W A Kelley..... 400
Bell, Elliott & Co..... drilling
Wm Story, Beattey & Co..... 1200
John Kelley, Mildren Bros 100
Robert Story, W J McKee (fishing). sand
Stone House, Manifold, Butler & Conley..... rig
Cooper, J S Cooper..... 100
Gibson, Brackney & Co..... 100
Black, McKee & Coyle..... 300
John Kelley, Smith & McNees..... rig
Widow Reep, Brawley..... 300
Wm Reep, Brawley & Co ..... rig bldg

St. Joe.

Widow Martin, Campbell & Murphy 300

Thorn Creek.

Noel, H H Stow No 2..... 150
Wallace, Shiedemantle (old)..... rig
McLaughlin, Bennett & Hoffman.... 1650
" ..... rig bldg
Masharg, O M Russell (old) ..... rig
Hartman, Leidecker & Turner..... rig
Hazlett, J S Campbell No 2..... 1000

New rigs..... 17
Old rigs..... 7
Drilling 41

Total 65

A plant has just been completed at McKeesport for the purpose of converting natural gas into illuminating gas. The productive capacity of the plant is 75,000 feet a day. Mr. Benjamin Lauth, of this city, and Col. Wm. McCarthy, of Maryland, are at the head of the new enterprise. In the event that the plant is a success, a syndicate of capitalists of new York, Baltimore and Philadelphia will work the invention of Col. McCarthy quite extensively in this part of the State.

LITCHFIELD, Illinois, expects to be lighted with natural gas, by the first of January.

CANADIAN Crude oil is worth from 79 to 80c. per barrel, while the market for refined continues active at 11c. The shipments of crude and refined reduced to crude equivalent amounted to 87,395 barrels during October. Canada imported 586,137 gallons of American refined in September.

AN Iowa woman has named her daughters Gasoline and Kerosene. She probably wants them to ignite at the first flame.

PITTSBURGH dealers are said to be doing a big business with Canadian smugglers of American refined.

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	OCTOBER, 1885.	SEPTEMBER, 1885.
National Transit Co	1,657,290.94	1,511,954 34
Tidewater	198,359 86	191,887.73
Octave Oil Co	3,378.29	3,697.44
Charley Run	109 50	178.50
Shaffer Run	430.00	624.50
Franklin (limited)	9,191.97	7,714.59
Pittsburgh Pipe Line	24,403.51	25,958.61
Total	1,893,164.07	1,742,015.71
Daily average	61,069.81	58,067.19

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	OCTOBER, 1885.	SEPTEMBER, 1885
National Transit Co	1,822,374.00	1,915,613.97
Tidewater	188 616 19	20 ,128.36
Octave Oil Co	3,578.52	3 294.31
Charley Run	1,494.98	1,927.05
Shaffer Run	1,175.00	2,175 58
Franklin (limited)	15,867.92	10,035.26
Pittsburgh Pipe Line	17 043.69	--------
Total	2,050,150.30	2,136,174.53
Daily average shipments	66,133.88	71 205,81

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, October	5,064 07
Daily excess of shipments over runs, September	13,138.62
Daily excess of shipments over runs, August	11,099.01
Daily excess of shipments over runs, July	5,959.01
Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762 92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,503.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	OCTOBER 31, 1885.	SEPTEMBER 30, 1885.
National Transit Co	32,483,596.40	32,673,442.74
Tidewater	1,351,483.90	1,344,298.49
Octave Oil Co	2,955.47	3,323.42
Charley Run	3 5 00	1.543 85
Shaffer Run	27.293.52	28 113.57
Franklin (limited)	30,539.71	37,215 66
Pittsburgh Pipe Line	7,359.82	--------
Total	33,903,543 82	34,087,937.73

Stocks decreased October	184,393 91
Stocks decreased September	408,862 12
Stocks decreased August	390,529 99
Stocks decreased July	215,947.71
Stocks decreased June	356,849 49
Stocks decreased May	565.252 48
Stocks decreased April	42,525 72
Stocks decreased March	248,900.89
Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780 27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552.87
Stocks decreased October, 1884	616,976.88
Stocks decreased September, 1884	345,281 52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.12
Stocks increased June, 1884	19 ,320.03
Stocks increased May, 1884	322,981 73
Stocks increased April, 1884	1,945,919 83
Stocks increased March, 884	164.711.39
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56

	RECEIPTS.	DELIVERIES.
Daily average October	61,070	66,134
Daily average September	58,067	71,206
Daily average August	55,001	66,100
Daily average July	57,293	63,252
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,8 1
Daily average February,	54,976	67,667
Daily average January, 1885	53,299	58,183
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76.391
Daily average August	66,996	64,402
Daily ave age July	66,702	56,170
Daily average June	67,350	60,907
Daily average May	66.688	56,448
Daily average April	65 794	54,773
Daily average March	64,590	6 ,445
Daily average February	64,573	59,420
Daily average January, 1884	58,173	54,404

SUBSCRIBE for the AGE. Only $3.00 per year.

SUMMARY of the Statements of the National Transit Company for October and September, 1885:

	OCTOBER. Barrels.	SEPTEMBER. Barrels.
Receipts from all sources	1,657,290.94	1,531,468.94
Deliveries	1,822,374 00	1,915,613.79
Gross stocks end of mouth	35,928,132.04	36 392,822 97
Sediment and surplus	3,444,535.64	3,719.379.93
Total liabilities end of month	32,483,596 40	32,673,442.74
Outstanding acceptances	28,270,229.17	27,750,469.22
Credit balances	4,213,307 23	4 922,973.52

The above "Receipts from all sources" for September were made up as follows:

Runs from wells	1,511,954.34
Receive from other l nes	19,514.60

SUMMARY of the Statement of the Tidewater Pipe Company, Limited, for October, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of October		1,344,298.49
Quantity of crude petroleum at close of Oct.	1,476,422 38	
Less sediment and surplus	124,938 48	
		1,351 483.90
Receipts during October		198,359.86
Deliveries during October—to refiners	188,616.19	
" " " to other parties	--------	
		188,616.19
Outstanding certificates, accepted orders, etc.		8?5,000 00
Credit balances		466,403.90
Total liabilities, October 31, 1885		1,351,483 90

SEPTEMBER SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of September		1,352,046.03
Quantity of crude petroleum at close of Sept.	1,474,302.93	
Less sediment and surplus	130,004.44	
		1,344,298 49
Receipts during September		191,887.73
Deliveries during September—to refiners	203,128.36	
" " " to other parties	. -------	
		203,128.36
Outstanding certificates accepted orders, etc.		828,000.00
Credit balances		516,298.49
Total liabilities September 30, 1885		1,344,298.49

Petroleum in Vancouver Island.

The recent discovery of crude petroleum on Vancouver Island has had the effect of stimulating prospecting in localities in which it was supposed the precious fluid existed, but so far the Comox section is the only oil producing territory that has been brought to light. As already announced the party sent to test the territory and the expert accompanying returned to the city with samples, which, on being tested by competent authorities, was found to be indeed an excellent quality of crude oil. The gravity, however, is heavier than the regular oil to be found in pockets in the bowels of the earth, but as that brought down was gathered on the surface, and known to oil men as surface oil, which is

AN EXCELLENT LUBRICANT,

the more precious article undoubtedly abounds in the vicinity. The existence of crude petroleum is thus demonstrated beyond the possibility of a doubt. The value of the discovery is incalculable, for it will add to our previous resources another industry, and be the means of retaining within ourselves a considerable sum of money sent abroad, as well as drawing to our shores capital from foreign climes. The value of illuminating petroleum imported at this port for the year ending in June last was upwards of $30,000, the duty on which amounted to close upon $20,000 more. This is a considerable sum, but it does not embrace the total quantity of oil brought into this country, for a considerable quantity finds its way to New Westminster and Nanaimo.

In the *Gazette Hebdomadaire* M. Vigier calls attention to the great prospective value in the arts of a new preparation called petrobaseline. It is a clear, liquid hydro-carbon, formed from vaselinc by depriving it of 25 per cent of paraffine. It is insoluble in water, and it does not grease, yet "lubrifics all bodies and preserves them from oxidation." The writer calls it "a marvellous agent, endowed with the principal properties of water, alcohol, glycerine, and the fixed oils." It seems destined to have been used, and already perfumery has employed it largely to advantage.

A NEW ATLAS.

BRADLEY'S ATLAS OF THE WORLD. A Complete American and Foreign Atlas. Wm Bradley & Bro., 1026 Arch St., Philadelphia: 1885. Folio; 112 Maps.

Among the books which are an absolute necessity to the business or professional man in his office or library, there seems to us to be none of greater importance than an excellent atlas. At this age when the aspirations of princes of the Old World cause constantly-changing frontiers, and explorations are being prosecuted in regions of the globe heretofore comparatively unknown, a complete atlas of the world is fully as important to the careful reader of the daily papers as his dictionary. This demand renders the supply a necessity; and American enterprise and ability has come to the front and supplied the long-felt need in this department of science.

Wm. M. Bradley & Bro. have just completed an atlas which seems to respond to every necessity of the commercial and literary world. So great is the expense of such an undertaking that but few attempts to complete a work of this kind have ever been made in America. This firm of Bradley & Bro. have the precedence of being direct successors to Augustus Mitchell, who about 1845 published a very excellent atlas of the world, which was followed about 1855 by Colton's. The history of these two atlases marks almost the entire progress in the science of official cartography in America till the production of this work, except, perhaps, the publication of two works known respectively as "Johnson's New Family Atlas" and "The National Atlas." These were, however, but little more than revisions of Colton's, and failed to make sufficient improvement to supercede it as a standard or to supply the needs of so progressive a people as the Americans.

This Bradley's Atlas is the product of many years' labor, and is based upon the most ample resources and latest data, including both official and special surveys, reduced by the most expert cartographers in this country, and engraven in the highest style of the art by the United States government engravers.

We find from a cursory examination that the Eastern Hemisphere is delineated by maps apparently as correct and more complete and more recent than even the Royal Atlas of England, which for years has been acknowledged superior to all other atlases. Besides the forty-six maps devoted to the Eastern Hemisphere, there are sixty-four devoted to the Western Hemisphere. Nearly every State in the Union is represented on a large double sheet, showing with great minuteness each postoffice, city and town, and railroads and topographical outlines with unequaled fullness. The States and Territories are particularly noticeable as being thoroughly recent and complete.

Each map in the entire work is accompanied by an index which locates according to the isometric system all counties, towns and postoffices, and gives the population of each one containing more than ten inhabitants. The work is thus made thoroughly practical for ready reference.

The subdued coloring of the maps affords relief to the eye and at the same time adds greatly to their legibility. There are some maps that deserve especial attention The North Polar chart contains the most minute data of all the exploring expeditions, including Nare's, Nordenksjold, DeLong and Greeley's, being the only one published showing the official report of the discoveries made by Lockwood and Brainerd, of the Greeley Expedition, in the Polar Sea

Mercator's projection is finely shown as a complete marine chart—ocean currents, steamship lines, submarine telegraphs, and data from exploring expeditions being complete.

The maps of Switzerland and Scandinavia being from later surveys, are the finest published.

The map of Turkey-in-Europe, being officially reduced from the Berlin Treaty, is more complete and serviceable in the study of the Eastern question than the special maps found in book-stores.

The maps of the territory of the late Afghan dispute, and the late war in the Egyptian Soudan, are of special interest and will be found most satisfactory.

Perhaps the most that can be said for the United States maps is that after being perfected and examined they have been officially adopted as the standard in the Army, Navy, Postal and Interior Departments of the United States government and our leading colleges.

The reader who desires accurate information in political or physical geography can ill afford to forego the privileges afforded in this atlas.

Crude Oil and Water for Fuel a Success.

The Irons improved oil burner has now been in practical use by himself and others for nearly two years demonstrating the fact that crude oil and water can be successfully used as fuel. A burner for a common stove consumes about four gallons of oil and three times that amount of water in twenty-four hours continuous fire. The flow of oil to the burner is regulated by what might be called *a vacuum feed* an *entirely new process* for regulating the flow of *crude oil* in small quantities. Even as fine as one drop per minute and continuous—in cold or warm weather—alike without clogging or shutting off as is the case with all oil valves in use to-day for regulating the flow of crude oil in small quantities. This process also prevents an overflow of oil, allowing only a sufficient amount to properly feed the burner, rendering it perfectly safe for hired help or even children to manage. The burner is constructed of cast iron with an opened v shaped groove, into which the oil flows and is there evaporated, excepting the heavier parts which pass around the groove and down through an opening into the lower part of the burner, which is all consumed. Thus preventing the burner from caking up. The water enters a hollow cylinder-like casting, which encircles the oil part of the burner when it becomes water gas, and then unites with the carbon gas from the oil at the moment the combustion takes place, making a perfect fire clean and odorless in about seven minutes after the match is applied. This fire is only equaled by gas, but in some respects is superior to gas. The heat is not so dry and dead, but mellow, moist and pleasant; more like a wood fire, and the most healthy fire in use to-day. Mr. J. F. Irons, the patentee is a Bradford man, an old Butler county operator, and has spent three years in perfecting this burner. Its superior qualities are being practically demonstrated daily by a number of our citizens in cooking stoves, and as it can be used as well in heating stoves and for firing boilers, the appliance should enlist the attention of every one interested in the economy of fuel. The oil producer is vitally interested in it, as affording a new avenue for the consumption of petroleum and the AGE takes pleasure in calling their attention to the patent.

The People's Light and Heat Company, of Washington, Pa., recently struck another good gasser on the McMurray farm, at a depth of 1050 feet.

October Production Report.

Reports of the stocks on hand at 6,005 Bradford wells, showed an average decrease of one and four-tenths barrels to the well during October:

Time.	No. Wells.	Gross Stocks.	Average per well.
November 1, 1885	6,005	296,451	49 4
October 1, 1885	5,998	304,648	50.8
Difference	7	8,197	1.4

The number of wells in the Bradford field connected with the pipe lines on the 1st of November is estimated at 13,635. Estimating the entire Bradford region on the basis of one and four-tenths barrels decrease, the total decrease in stocks at wells during October was 20,089 barrels, a daily average of 648 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for October is as follows:

	Barrels.
Average Daily Pipe Line Runs	30,828
Average Daily Decrease of Stocks at Wells	648
Bradford's October Production, estimated	30,180
" September " "	30,205
Average Daily decrease	25

These figures show a decrease of 25 barrels a day in the production of the Bradford field during October.

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
November 1, 1885	1,141	42,090	36.9
October 1, 1885	1,141	45,120	39.5
Decrease	0	3,130	2.6

The wells from which reports were received had an average decrease of two and six-tenths barrels to the well during October. With 3,980 wells in the field on the 1st of November, these figures give a total decrease for the field of 10,348 barrels, or an average decrease of 334 barrels per diem. Subtracting this amount from the average daily pipe line runs, 7,081, the remainder, 6,747, will represent Allegany's production during October. The September average was 7,186 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the 1st of each month, with their averages, are contained in the following statement:

Field.	No. Wells October 1.	No. Wells Nov. 1.	Average per well October 1.	Average per well Nov. 1.
Clarendon and Tiona	190	207	33	32
Cherry Grove	22	22	46	43
Cooper District	138	139	59	57
Thorn Creek	64	65	148	132
Lower Country	83	84	51	49
Miscellaneous	157	156	100	103

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for October and September is as follows:

Field.	October. Barrels.	September. Barrels.
Bradford	30,180	30,205
Allegany	6,747	7,186
Outside Runs	23,161	21,269
Total	60,088	58,660

The above figures show an increase in the production of 1,428 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points in the region.

The oil run by the Pittsburgh lines during September averaged 865 barrels per day, and 787 barrels in October. It is included in the above estimates with the figures for outside runs, and is produced in the Baldridge and St. Joe districts of Butler county.

The following table shows the comparative production for 1883, 1884 and 1885:

	Bradford.		Allegany.		Outside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481	11,607	13,154	18 561	13,573	62,546	65,208
March	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65,018	69,445
June	33,753	35,279	11,108	13,499	19,977	18.330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
August	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12,335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
November	31,789	35,026	8.642	12,678	23,557	18,433	63,988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16,140	55,529	59,240
February	27,051	32 378	7,196	11,607	19,800	18,561	54,047	62,596
March	26,444	31,912	7,342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23,067	19,162	57,649	63,452
May	27,231	33,922	7,049	11,547	21,225	19,549	55.505	65,018
June	29,272	33,753	7,463	11,108	21,559	19,977	58,294	64,838
July	30,309	34,031	7,139	11,218	19,273	20,870	56,721	66,119
August	29,858	33,353	7,065	10 384	18,608	22,830	55,531	66,567
September	30,205	32,976	7,186	9,877	21,269	22,514	58,660	65,367
October	30,180	31,758	6,747	9,356	23,161	22,762	60,088	63,876

In the above report no account is taken of the Macksburg field, which had an average production of about 2,053 barrels a day in October, 2,270 barrels in September and 2,382 barrels in August.

THE natural gas wells at Tolono, in Champaign county, Illinois, are gradually failing, and no new ones have been discovered for a year. The most noted of all these wells, owned by H. C. Smith, and used for several years for lighting and heating purposes at his residence, is becoming almost worthless, the supply of gas being inadequate for the uses it formerly subserved. Another which, when new, showed the greatest pressure of any of them, and was used to run a large steam engine, has been abandoned. Most of the others in this region are going out of use.

THE Philadelphia Company of Pittsburgh supplies 1,500 dwelling houses, 69 miscellaneous establishments, 66 glass factories, 34 rolling mills and 45 industrial establishments with natural gas. Applications from dwelling houses are now pouring into the company's office faster than they can be filled. It is estimated that from 8,000 to 10,000 tons of coal are displaced daily by this company's wells.

SIXTEEN pipe-lines are now in use in conveying natural gas from the wells to the cities of Pittsburgh and Allegheny. These lines aggregate over 300 miles in length, and the branches to points of consumption aggregate at least 200 miles more. It is estimated that by the 1st of January the network of pipes will aggregate not less than 600 miles.

LIGHTNING struck the four great escape pipes of the Philadelphia Company, at the foot of Thirty-sixth St., Pittsburgh, early in the evening of October 13. The pipes are 176 feet high, and the gas was ignited bursting into a magnificent pillar of fire with a tremendous roar. It was allowed to burn over an hour before it was turned off.

NATURAL GAS from lot 213, in McKean county, was turned into the streets of Jamestown October 30th. An eight-inch line, 30 miles and 3,000 feet long connects the wells with 35 miles of service-pipe laid in the village streets.

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	OCTOBER, 1885. Wells.	Prod'n.	Dry.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.
Scio	6	34	0	7	34	1
Alma	12	63	0	18	89	1
Wirt	10	64	0	8	49	0
Bolivar	8	57	0	9	58	0
Clarksville	24	195	0	16	108	4
Genesee	2	14	0	1	8	0
Miscellaneous	0	0	0	1	0	1
Total	62	427	0	60	346	7
Total September	60	346	7			
Difference	2	81	7			

BRADFORD FIELD.

Division of Field.	OCTOBER, 1885. Wells.	Prod'n.	Dry.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	21	173	0	21	180	1
Kendall Creek	6	42	0	1	5	0
Foster Brook	9	72	0	11	86	0
Knapp's Creek	0	0	0	3	19	0
Four Mile	5	40	0	2	14	0
Indian & Meeks Creeks	6	51	0	13	99	0
Cole Creek	11	168	2	11	160	0
Kinzua	4	78	0	5	34	2
Total	62	624	2	67	597	3
Total September	67	597	3			
Difference	5	27	1			

WARREN AND FOREST.

District.	OCTOBER, 1885. Wells.	Prod'n.	Dry.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.
Glade	11	351	2	18	126	3
Clarendon	33	207	1	19	103	1
Tiona	35	234	0	30	187	1
Cooper	5	26	2	2	40	0
Balltown	9	174	4	10	155	2
Miscellaneous	7	9	5	3	0	3
Total	100	1001	14	82	611	10
Total September	82	611	—			
Increase	18	390	4			

LOWER COUNTRY.

District.	OCTOBER, 1885. Wells.	Prod'n.	Dry.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.
Venango	47	580	6	51	366	11
Clarion	95	2543	14	65	2263	2
Butler and Armstrong	31	438	8	32	495	10
Total	173	3561	28	148	3124	23
Total September	148	3124	23			
Increase	25	437	5			

GRAND SUMMARY.

District.	OCTOBER, 1885. Wells.	Prod'n.	Dry.	SEPTEMBER, 1885. Wells.	Prod'n.	Dry.
Allegany	62	427	0	60	346	7
Bradford	62	624	2	67	597	3
Warren and Forest	100	1001	14	82	611	10
Lower Field	173	3561	28	148	3124	23
Total	397	5613	44	357	4678	43
Total September	357	4678	43			
Increase	40	935	1			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	OCTOBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	4	5	6	15	3	5	5	13
Alma	7	12	9	28	7	12	15	34
Wirt	12	3	13	28	8	5	10	23
Bolivar	3	2	7	12	3	4	7	14
Genesee	3	11	2	16	1	15	0	16
Clarksville	17	2	19	38	22	3	17	42
Miscellaneous	1	0	1	2	0	0	0	0
Total	47	35	57	139	44	44	54	142
Total Sept. 30	44	44	54	142				
Difference	3	9	3	3				

BRADFORD FIELD.

Division of Field.	OCTOBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches.	18	12	28	58	19	15	27	61
Kendall Creek	5	1	7	13	3	3	5	11
Knapp's Creek	5	0	6	11	1	0	3	4
Foster Brook	9	1	9	19	7	1	9	17
Four Mile	5	2	6	13	2	2	4	8
Indian Creek	3	4	10	17	8	4	7	19
Cole Creek	6	3	6	15	8	3	14	25
Kinzua	1	0	3	4	3	0	4	7
Miscellaneous	0	0	5	5	3	0	1	3
Total	52	23	80	155	51	28	73	152
Total Sep. 30	51	28	73	152				
Differen e	1	5	7	3				

WARREN AND FOREST.

Divl ion of Field.	OCTOBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	9	6	15	30	15	3	11	29
Clarendon	26	3	24	53	24	7	23	54
Tiona	39	2	25	66	31	1	31	63
Cooper	4	0	7	11	3	0	5	8
Balltown	5	0	8	13	6	0	7	13
Miscellaneous	5	0	8	13	1	0	6	77
Total	88	11	87	186	80	11	83	174
Total Sept. 30	80	11	83	174				
Increase	8	0	4	12				

LOWER COUNTRY.

Division of Field.	OCTOBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Venango	56	4	44	104	49	2	41	92
Clarion	70	13	85	168	71	4	98	173
Butler & Armstrong	17	7	41	65	19	10	50	79
Total	143	24	170	337	139	16	189	344
Total Sept. 30	139	16	189	344				
Difference	4	8	19	7				

GRAND SUMMARY.

Field.	OCTOBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	SEPTEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	47	35	57	139	44	44	54	142
Bradford	52	23	80	155	51	28	73	152
Warren and Forest	88	11	87	186	80	11	83	174
Lower Country	143	24	170	337	139	16	189	344
Total Oct. 31	330	93	394	817	314	99	399	812
Total Sept. 30	314	99	399	812				
Difference	16	6	5	5				

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virginia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11.894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441
August	73,858	23,82
September	68,110	2,270
October	68,619	2,059

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal Continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE	Oct. 24, 1885. Barrels.	Sept. 26, 1885. Barrels.
Seven Continental Ports	1,147, 42	1,451,930
London	242,307	210,886
Trieste	------	27,523
Total Stocks afloat and ashore	1 389,949	1,690,339
Decrease in st cks since September 26	300,390	------

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1884. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS OCTOBER 24, 1885.

PORTS.	Stocks week ending October 24.		Stocks afloat week ending October 24.		Loading. Week ending October 24.		Grand total stocks, afloat and load ng.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Parrels.	1885. Barrels	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	175,113	109,388	57,498	99,019	--------	42,000	232.611	242,307	114,263	176,393	175,528	172,831
Trieste	44,848	------	20 7.7	------	-------	-------	65,585	--------	45,417	--------	40,427	--------
Bremen	675,675	396,900	35,474	23,864	91,000	67,000	802.149	487,764	167,407	202,145	313,1 2	253,315
Hamburg	234,235	99,156	73,752	92,545	60,500	27,800	368, 87	219,501	463,4 3	396,399	403,912	478,085
Antwerp	97,413	95,967	133,851	36,257	60,300	32,00	291,564	164.224	263,765	297,576	331,645	308,569
Rotterdam	43,284	38,651	13,253	37,854	34,000	7,000	9 ,537	83,505	53,793	146,838	77 781	177,124
Amsterdam	19,030	25,785	42 496	15,072	7,000	15,000	68,526	55 857	55,704	77,958	77,610	79,544
Stettin	90,851	97,949	27,561	7,685	--------	--------	118.412	105,634	159,800	204,317	106,596	164,780
Danzig	26,049	23,657	4,433	--------	--------	7,500	30,482	31,157	44,374	41,046	26,420	26,755
Total	1,186,537	778,065	330,820	213,277	252,800	156,300	1,770,157	1,147,642	1,208,276	1,366,279	1.337 076	1,488,172

	1882.	1883.	1884.	1885.
Total stocks Continental Ports	1,430,889	1,573,153	1,186,537	778,065
Total afloat, " "	278,887	269,978	330,820	213,277
Total loading	163 900	212,100	252,800	156,300
Total	1,873,676	2,055,231	1,770,157	1,147,642
Afloat and loading for direct Continental Ports	50,900	39,300	11,700	--------
" " " Baltic Sea, exclusive Stett n and Danzig	1,400	4,700	26,500	1,500
" " " Total Continental Ports	1,925,976	2,099,231	1,808,357	1,149,142
" " " Total London	381,135	466,628	232,611	242,307
" " " English harbors, exclusive London	131,000	156,700	180,700	86,300
Grand total	2,438,111	2,722 559	2,221,668	1,477,749

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, SEPTEMBER, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., OCT. 12, 1885.

CUSTOMS DISTRICTS.	MINER'L, CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.
Boston and Charlestown, Mass	--------	------	--------	------	417.644	46,194	12,294	3,651	--------	------	429,938	49,845
New York, N. Y	6,741,438	535,155	970,115	80,538	34,2 8,587	3,091,735	722,494	162,925	420	33	42,693,054	3,870,386
Philadelphia, Pa	3,987,378	291,049	1,155,424	78,641	11,411.850	1,000 076	26,561	3,701	242,046	13,739	16,823,259	1,387,206
Baltimore, Md	--------	-------	--------	-------	1,131,8.4	94,781	15,012	2,350	-------	--	1,14 ,896	97,131
San Francisco, Cal	--------	-------	--------	-------	---------	--------	-------	-------	-------	------	---------	--------
All other districts	--------	-------	--------	-------	--------	--------	--------	--------	--------	------	--------	--------
Total for Sept'r, 1885	10,728,816	826,204	2,125,539	159,179	47,219,965	4,232,786	776,361	172,627	242,466	13,772	61,093,147	5,404,568
Total for Sept'r, 1884	7,537,292	577,963	2,034,462	169,440	46,245,594	3,951,577	1,115,330	213,484	139,650	9,883	57,072,328	4,922,347
Total for 9 monthsen ing Sept'r 30, 18 5	60 815,609	4,478,702	11,043,5 5	849,121	338,955,991	29,5 5,718	9,544,023	1,918,376	4,727,100	273,809	425,086,238	37,105,726
Total for 9 months ending Sept'r 30, 1884	52,478,142	4,149,917	8,478,054	704,365	309,712,747	28,466,716	8,658,594	1,770,956	3,723,258	244,925	383,050,795	35,336,879

CRUDE QUOTATIONS FOR OCTOBER, 1885.

Day of Month and week.		BRADFORD.				OIL CITY,				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
T	1	101⅛	101½	100⅝	100⅝	101⅛	101½	100¾	100¾	101	101½	100¾	100⅞	101¼	101½	100¾	100¾
F	2	100¾	101⅜	100⅛	100⅜	100⅞	101½	100⅛	100⅜	100⅞	101½	100⅛	100⅜	101	101⅜	100¼	100⅜
S	3	100⅜	100⅝	100¼	100½	100½	100⅝	100¼	100⅜	100¼	100¾	100⅛	100½	100½	101⅝	100¼	100⅜
M	5	100½	101⅜	100½	101	100⅜	101½	100⅜	100⅞	100⅞	101½	100½	101	100½	101½	100½	100⅞
T	6	101⅛	101⅜	100⅝	100⅞	101¼	101¼	100¾	100⅞	101⅜	101⅜	100¾	100⅞	101¼	101¼	100¾	100⅞
W	7	101	101⅛	100⅞	101	101	101⅛	100⅞	101	101⅜	101⅜	100⅞	101⅜	101	101	101	101
T	8	101¼	102½	101⅛	101¾	100¼	102½	101¼	101⅝	101⅜	102½	101⅜	101¾	101¼	102½	101¼	101¾
F	9	102	102	101⅜	101⅛	101¾	101⅞	101⅜	101¼	101⅞	1 2	101⅜	101⅜	101⅞	101⅞	101⅜	101⅜
S	10	101¼	101⅜	100⅞	101⅛	101⅜	101¾	100⅞	101	101⅜	101½	100⅞	101⅛	101⅜	101⅜	100⅞	101⅜
M	12	101¼	101⅜	100⅞	101⅜	101¼	101½	101	101	101¼	101½	100⅞	101	101¼	101½	101	101⅛
T	13	101⅛	101⅛	100⅝	100¾	101⅜	101¼	100⅝	100⅝	101⅜	101¼	100½	100¾	101	101⅜	100⅝	100¾
W	14	100⅞	102¼	100⅜	101½	100¾	102⅛	100⅜	101½	101	102⅜	100⅜	101⅜	100¾	102¼	100¾	101½
T	15	101⅞	103	101¼	102⅞	101⅞	103	101¼	102⅞	102	103	101⅜	102⅞	101⅞	103	101⅜	102⅞
F	16	103	106⅞	102¾	106⅞	103⅛	106¾	102¼	106½	103¼	107	102¾	107	103	107	102¾	106⅞
S	17	108	110¼	1 6⅞	107	107¼	110⅛	107	107	1 8	110	107	107¼	108	110	107	107
M	19	107⅜	109⅜	107⅜	108¼	107⅜	109½	107⅜	108¾	107¼	109½	107¼	108⅜	108	109½	107½	108⅞
T	20	110	112⅝	109½	112⅛	110	112⅝	109½	112	110	112½	109½	111¾	109¼	112⅜	109¼	112
W	21	111	112¾	110¼	111	111	112½	110	110⅞	111¼	112½	110¼	111	111	112½	110⅛	111
T	22	110⅞	111⅜	109⅝	109¾	110¾	111⅜	109½	109¾	111	111⅜	109¾	109¾	111¾	111¾	109½	110
F	23	110	110⅜	108⅞	109	110	110¼	108⅞	109	110	110¼	108⅞	109	110¼	110¼	108⅞	108⅞
S	24	109	109¾	108⅝	109	109	109¾	108⅝	109⅛	109	109⅜	108¾	109⅛	109	109⅞	108¾	109¼
M	26	109½	110	108¼	108⅜	109¼	110	108¼	108⅜	109⅜	110	108¼	108¼	109½	110⅛	108⅜	108⅜
T	27	108⅛	110⅜	107⅜	110⅜	108⅜	110⅜	107½	110⅜	108¼	110¾	107½	110¼	108¼	110⅜	107⅝	110⅜
W	28	110	112	109⅛	110¾	110	111⅞	109⅛	110½	110⅛	112	109	110½	110⅜	112	108⅞	110⅜
T	29	110⅛	110⅞	109⅜	109⅞	110¼	110⅞	109⅝	109⅞	110½	111	109⅝	109⅞	110⅜	111	109⅜	109⅞
F	30	109⅞	110½	103¾	110⅛	109⅞	110⅜	109¾	110¼	109⅞	110⅝	109⅞	110¼	109¾	110½	109¾	110¼
S	31	110⅞	111¾	110⅞	111½	110¾	111⅞	110½	111½	110¾	111⅞	110¾	111⅞	110¾	111⅞	110¾	111⅜

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., DECEMBER, 1885. NO. 11.

THE GEOLOGY OF NATURAL GAS.

BY I. C. WHITE.

THE recent introduction of natural gas into general use as a source of heat for industrial and domestic purposes has raised it from the rank of a mere curiosity to one of the earth's most valuable treasures.

To the reader unacquainted with the great change natural gas has effected in all industries where it can be obtained, the following quotation from an article in *Macmillan's Magazine* for January, written by Mr. Andrew Carnegie, the chief iron master of Pittsburgh, will be a revelation: "In the manufacture of glass, of which there is an immense quantity made in Pittsburgh, I am informed that gas is worth much more than the cost of coal and its handling, because it improves the quality of the product. One firm in Pittsburgh is already making plate glass of the largest sizes, equal to the best imported French glass, and is enabled to do so by this fuel. In the manufacture of iron, and especially in that of steel, the quality is also improved by the pure new fuel. In our steel rail mills we have not used a pound of coal for more than a year, nor in our iron mills for nearly the same period. The change is a startling one. Where we formerly had 90 firemen at work in one boiler-house, and were using 400 tons of coal per day, a visitor now walks along the long row of boilers, and sees but one man in attendance. The house being whitewashed, not a sign of the dirty fuel of former days is to be seen; nor do the stacks emit smoke. In the Union iron mills our puddlers have whitewashed the coal-bunkers belonging to their furnaces. Most of the principal iron and glass establishments in the city are to-day either using this gas as fuel, or making preparations to do so. The cost of coal is not only saved, but the great cost of firing and handling it; while the repairs to boilers and grate-bars are much less."

This new fuel, which bids fair to replace coal almost entirely in many of our chief industrial centres, has not received that attention from the geologist which its importance demands. So far as the writer is aware, nothing has been published on the subject which would prove of any value to those engaged in prospecting for natural gas, and it is the existence of this blank in geological literature that has suggested the present article.

Practically all the large gas wells struck before 1882 were accidentally discovered in boring for oil; but when the great value of natural gas as fuel became generally recognized, an eager search began for it at Pittsburgh, Wheeling, and many other manufacturing centres.

The first explorers assumed that gas could be obtaind at one point as well as another, provided the earth be penetrated to a depth sufficiently great; and it has required the expenditure of several hundred thousand dollars in useless drilling to convince capitalists of this fallacy which even yet obtains general credence among those not interested in successful gas companies.

The writer's study of this subject began in June, 1883, when he was employed by Pittsburgh parties to make a general investigation of the natural gas question, with the special object of determining whether or not it was possible to predict the presence or absence of gas from geological structure. In the prosecution of this work, I was aided by a suggestion from Mr. William A. Earseman, of Allegheny, Pa., an oil operator of many years' experience, who had noticed that the principal gas wells then known in Western Pennsylvania were situated close to where anticlinal axes were drawn on the geological maps. From this he inferred there must be some connection between the gas wells and the anticlines. After visiting all the great gas wells that had been struck in western Pennsylvania and West Virginia, and carefully examining the geological surroundings of each, I found that every one of them was situated either directly on, or near, the crown of an anticlinal axis, while wells that had been bored in the synclines on either side furnished little or no gas, but in many cases large quantities of salt water. Further observation showed that the gas wells were confined to a narrow belt, only one-fourth to one mile wide, along the crests of the anticlinal folds. These facts seem to connect gas territory unmistakably with the disturbance in the rocks caused by their upheaval into arches, but the crucial test was yet to be made in the actual location of good gas territory on this theory. During the last two years, I have submitted it to all manner of tests, both in locating and condemning gas territory, and the general result has been to confirm the anticlinal theory beyond a reasonable doubt.

But while we can state with confidence that all great gas wells are found on the anticlinal axes, the converse of this is not true; viz., that great gas wells may be found on all anticlinals. In a theory of this kind the limitations become quite as important as, or even more so than, the theory itself; and hence I have given considerable thought to this side of the question, having formulated them into three or four general rules (which include practically all the limitations known to me, up to the present time, that should be placed on the statement that large gas wells may be obtained on anticlinal folds), viz:

(*a*) The arch in the rocks must be one of considerable magnitude; (*b*) A coarse or porous sandstone of considerable thickness, or, if a fine-grained rock, one that would have extensive fissures, and thus in either case rendered capable of acting as a reservoir for the gas, must underlie the surface at a depth of several hundred feet (500 to 2,500 feet); (*c*) Probably very few or none of the grand arches along mountain ranges will be found holding gas in large quantity, since in such cases the disturbance of the stratification has been so profound that all the natural gas generated in the past would long ago have escaped into the air through fissures that traverse all the beds. Another limitation might possibly be added, which would confine the area where great gas flows may be obtained to those underlaid by a considerable thickness of bituminous shale.

Very fair gas wells may also be obtained for a considerable distance down the slope from the crest of the anticlinals, provided the dip be sufficiently rapid, and especially if it be irregular, or interrupted with slight crumples. And even in regions where there are no well-marked anticlinals, if the dip be somewhat rapid and irregular, rather large gas wells may occasinally be found, if all other conditions are favorable.

The reason why natural gas should collect under the arches of the rocks is sufficiently plain, from a consideration of its volatile nature. Then, too, the extensive fissuring of the rock, which appears necessary to form a capacious reservoir for a large gas well, would take place most readily along the anticlinals where the tension in bending would be greatest.

The geological horizon that furnishes the best gas reservoir in western Pennsylvania seems to be identical with the first Venango oil-sand, and hence is one of the Catskill conglomerates. This is the gas-rock at Murraysville, Tarentum, Washington, Wellsburg, and many other points. Some large gas wells have been obtained in the subcarboniferous sandstone (Pocono), however, and others down in the third Venango oil sand (Chemung).

In Ohio, gas-flows of considerable size have been obtained deep down in the Cincinnati limestone, while in West Virginia they have been found in the Pottsville conglomerate; hence natural gas, like oil, has a wide range through the geological column, though it is a significant fact that it is most abundant above the black slates of the Devonian.

Of the composition, probable origin, extent of gas territory in the country, and many other interesting points connected with natural gas, the necessary brevity of this article forbids any mention; but the writer has in preparation a more general paper on the subject, in which these and kindred questions will be discussed with more detail.—*Science*, No. 125.

Ashburner's Restrictions, and Prof. White's Reply.

Prof. I. C. White's article on the geology of natural gas (*Science*, June 26) must necessarily attract no little attention from those who have never been in the oil and gas regions of southwestern New York, western Pennsylvania, and eastern Ohio, where these wonderful and natural products are obtained; and also from those who are familiar with its commercial value and usefulness, but who have never made a study of the geological phenomena connected with its occurrence. In fact, the geology of this interesting region is so imperfectly understood by some of our leading professional geologists, who have never had an opportunity to investigate in the field all the geological conditions under which petroleum and natural gas are found, that I fear Professor White's necessarily brief article, based upon his field studies, will mislead many.

Although it is to be regretted that no general work "has been published on the subject which would prove of any value to those engaged in prospecting for natural gas," yet Mr. John F. Carll, geologist in charge of the survey of the oil regions, and myself, among others, have collected a vast amount of information on the subject to elucidate many of the intricate questions connected with the exploration of natural gas.

Professor White's theory, that "all great gas wells are found on the anticlinal axes," cannot be accepted until he shall limit, by definition, all great gas wells to exclude all gas wells, both large and small, comparatively, which produce gas from strata not found either on anticlinal axes or in close proximity to such structural lines. The Kane gas wells, the Ridgeway well, the "Old Mullin Snorter," and several Bolivar wells, are notable instances among many which might be mentioned where large gas wells have been drilled in or near the centre of synclines

Although it is a fact that many of our largest Pennsylvania gas wells are located near anticlinal axes, yet the position in which gas may be found, and the amount to be obtained, depend upon (*a*) the porosity and homogeneousness of the sandstone which serves as a reservoir to hold the gas; (*b*) the extent to which the strata above or below the gas sand are cracked: (*c*) the dip of the gas sand, and the position of the anticlines and synclines; (*d*) the relative proportions of water, oil, and gas contained in the sand; and (*e*) the pressure under which gas exists before being tapped by wells.

All oil-bearing sandstones contain a greater or less quantity of gas; and most gas-producing sandstones contain some oil, although a number of wells said to produce "dry gas," or that in which no oil or water can be detected, contain gas to the exclusion of fresh water, salt water or oil.

Many facts could be cited which would disprove or render insufficient Professor White's "three or four general rules" connected with the occurrence of natural gas in Pennsylvania formulated on the basis of his theory. This theory, in many cases, apparently explains the occurrence of gas; and what have proved large gas wells have been located on anticlinals; but the theory, as a practical basis of successful operations generally, has no more claims as a final statement than "Angell's belt theory," which accounted for the occurrence of petroleum, as understood by him in 1867, when his theory was first announced. Many successful oil operations have been based on the "belt theory," and fortunes made; but it has long since been found to be insufficient to account for the existence of petroleum in all the Pennsylvania districts.

CHAS. A. ASHBURNER,
Asst. Geologist Penn. Surv.

907 Walnut St., Phila., July 1.

In reply to Mr. Ashburner's criticism of the views advanced in my article on natural gas, I would say that the necessary brevity of the paper in question prevented the mention of many facts that might have rendered the conclusions clearer, and less open to challenge. One of these is, that my communication had especial reference to the natural gas regions proper: i. e., where the gas is unconnected with oil fields. Most geologists know that natural gas in large quantities exists with, and contiguous to, every oil-pool, apparently as a by-product in the generation of the oil; and of course the rocks are filled with it wherever it can find a reservoir. To gas-wells from such sources Mr. Ashburner's criticism may sometimes be found applicable; but, even with these, by far the larger ones will be found on the arches of the rocks.

The cases that Mr. Ashburner mentions, where large gas wells have been found at the centre of synclines, do not necessarily contradict my conclusions; for no one knows better than he that a subordinate crumple or anticlinal roll often runs along the central line of a syncline. Messrs. Ashburner and Carll have indeed collected and published many well records, and other data concerning oil and gas, that are invaluable with reference to the contiguous oil and gas regions already developed; but, if they have written anything that would prove a guide to one in search of new gas fields, the writer has failed to get access to the same.

My excuse for writing the article on natural gas was that I might be of some service in preventing the waste of capital that has been going on within a radius of fifty miles from Pittsburgh by an indiscriminate search for natural gas; and it is a sufficient answer to Mr. Ashburner's criticism to point him to the brilliant lights along the crests of the Waynesburg, Pin-Hook, Washington, Bull Creek, Brady's Bend, Hickory, Wellsburg, Raccoon, and other anticlinals, and also to the darkness that envelops the intervening synclines, in which hundreds of thousands of dollars have been invested without developing a single profitable gas well. The same result has been proven in other portions of the country. The Great Kanawha valley above Charleston has been honeycombed with borings for salt, and the only gas-wells developed were found within a belt a few rods wide, which coincides with the crest of the Brownstown anticlinal, where immense flows were struck. In this connection, I should state that Col. Allen, of Charleston, says he can trace the Brownstown anticlinal by the escaping gas across streams, and even mountains, from the Kanawha River to the Big Sandy, where, on its crest, near Warfield, two of the largest gas wells ever known have recently been struck. At Burning Springs, on the Little Kanawha, the only large gas wells were found on the very crest of the great uplift in that region. The gas belt of western Ohio, through Findlay and other towns, follows closely the line of the Cincinnati arch; and the same story is repeated in other localities too numerous to mention.

Mr. Ashburner can, if he chooses, interpret these facts as mere coincidences, and explain them to himself as having no more bearing on the question of finding gas than "Angell's belt theory" of oil; but the practical gas-operator can no longer be deluded by such logic, into risking his money in water-holes (synclines) where so many thousands have been hopelessly squandered.

With regard to the anticlinal theory not being "a practical basis for successful operations," I deem it a sufficient reply to state that all the successful gas companies of western Pennsylvania and West Virginia are getting their gas from the crests of anticlinal axes, while those that have confined their operations to synclines have met with uniform financial disaster.

The statement was distinctly made in my original communication that gas would not be found on all anticlinals, nor at all localities along one that actually produces gas, since other factors have to be considered, as there stated; but, with the facts before us, it would certainly prove a great saving of capital in the search for gas, if operations were confined to the crests of the anticlinals; and I fail to perceive how Mr. Ashburner's fears for the "misleading" character of my article can be realized.

I. C. WHITE.

Mountain Lake Park, Md., July 11.

A New Gas Company at Warren, Pa.

A new gas company has been organized at Warren, with a capital stock of $200,000. It proposes to supply natural gas to Warren citizens at not more than 40 per cent. of the price now asked by the Pennsylvania Company. The following are the officers of the new company: President, W. A. Rankin; Treasurer, G. N. Parmlee; Secretary, F. M. Knapp. Directors—W. A. Rankin, O. W. Beatty, H. A. Jamieson, S. V. Davis, G. N. Parmlee, B. Nesmith, A. Hertzel, M. B. Dunham, O. C. Allen.

SUBSCRIBE for the AGE. Only $3.00 per year.

THE RUSSIAN PETROLEUM INDUSTRY.

BY BOVERTON REDWOOD, F.I.C., F.C.S.

III. DISTRIBUTING.

[Concluded from Page 1144.]

The most remarkable illustration of the forethought, energy and enterprise which have throughout characterized Mr. Ludwig Nobel's action in the petroleum trade, is afforded by the admirable system of transportation and distribution which he has elaborated. It is well known that refined petroleum is usually carried in casks holding about 40 gallons, or in tins of four gallons enclosed in twos in wooden cases. The latter package is comparatively costly, and is only employed in the case of oil intended for use in hot climates; and as Russia produces but little timber available for barrel-making, the difficulty of transport appeared likely to seriously interfere with the development of the trade. Under these circumstances Mr. Nobel conceived the plan of conveying the oil in bulk from Baku in tank steamers, barges and railway wagons, to large storage tanks, whence it could be distributed in comparatively small quantities, in barrels which could be returned to be refilled. This system has proved perfectly successful; and it is not too much to say that without its adoption the petroleum trade in Russia could not have reached its present magnitude. Tank railway cars have been employed for the conveyance of crude petroleum in the United States long before Messrs. Nobel Brothers commenced using them in Russia, but I am not aware that this method of transporting refined oil had been adopted in America. The credit, however, of having carried to a successful issue the shipments of petroleum in tank steamers, undoubtedly belongs to Mr. Nobel, previous experiments in this direction having proved unsuccessful.

The tank steamers employed by Messrs. Nobel Brothers were constructed at Motala, in Sweden, and were floated in halves through the excellent canal system which Russia possesses to the Volga, where the forward and aft portions were united. These vessels are about 250 feet in length by about 28 feet in breadth, and have a draught when loaded of from 10 to 12 feet. The whole of the bows and forward part of the steamer forms one large cistern, furnished with two longitudinal bulkheads, and several transverse bulkheads to prevent oscillation of the liquid when the vessel is rolling in a heavy sea. The engines and boilers are amidships, and aft of these are two cylindrical vertical tanks, of a diameter about equal to the beam of the vessel, rising somewhat above the level of the deck. The total capacity of the tanks is about 225,000 gallons (equivalent to 5,500 barrels of 40 gallons each). The steamers are driven by screw propellers, and the engines are of 120-horse-power, nominal. The fuel used is astatki or petroleum residuum, and the speed attained is about 10 knots per hour. Of such steamers Messrs Nobel Brothers have, on the Caspian, 12. There are also half a dozen smaller steamers owned by other firms.

While loading, the steamers lie alongside piers extending into the sea from the neighborhood of the refineries, the oil being conveyed on board through 8-inch pipes, and the cargo of oil can thus be placed in the vessel in 4½ hours.

From Baku to the mouth of the Volga is a voyage of a couple of days, the distance being about 460 miles; but the Caspian is a stormy sea, as I found to my inconvenience, and in the short trips which the steamers make the system of tank transportation has been severely tested,

and has been proved to be free from risk. It is true that the prevailing winds on the Caspian are either north or south, and therefore, dead ahead or astern; but if tank steamers can traverse this sea without accident, there is probably no reason why they should not safely cross the Atlantic, and I doubt not that in time American petroleum will be shipped in bulk.

The Volga at its wide mouth is extremely shallow, and the tank steamers can proceed no further than a locality termed Nine Feet Soundings, about 20 miles from land, and 80 miles below Astrakhan. Here the oil is transferred to tank barges, in which it is conveyed to Tsaritsin (a distance of 284 miles from Astrakhan) or other distributing centers on the Volga, the transport of the oil from the Baku refineries to Tsaritsin occupying six days. There are 38 tank barges on the Volga, of which 20 are owned by Messrs. Nobel Brothers. At Tsaritsin Messrs. Nobel Brothers have 15 storage tanks (holding collectively 6,000,000 gallons), railway sidings, cooperage, etc., and the electric light is employed to facilitate work at night. There are also at this place some 30 tanks, of an aggregate capacity of nearly 9,000,000 gallons, belonging to the Caucasus and Mercury Company, and other firms; but many of these tanks are for the storage of residuum, while all except one of Messrs. Nobel's tanks are for burning oil.

From the storage tanks at Tsaritsin the oil is run into tank railway wagons, or barrelled, for conveyance by rail into the interior of Russia. Messrs. Nobel have on the Tsaritsin-Griazi Railway 1,500 tank wagons, similar in form to those used in the United States, each wagon holding about 2,600 gallons of oil. A train is usually made up of 25 wagons, and thus Messrs. Nobel have 60 trains engaged in the conveyance of refined petroleum from Tsaritsin to their storage tanks throughout Russia. The railway company have also a considerable number of tank wagons of their own for the conveyance of the petroleum of other firms.

Messrs. Nobel have at Tsaritsin a barrel factory capable of turning out 500 barrels per day, much of the wood used being brought from Siberia by way of the river Kama.

The Nobel Company have established their principal storage and distributing centre at Domnino, near Orel, in Central Russia, where they have tanks capable of holding 18,000,000 gallons. They have also extensive tankage at Moscow, St. Petersburgh, Warsaw, Saratow, and 23 other places, chiefly in Russia, the total storage thus provided being more than 36,000,000 gallons. The necessity for providing for so large an accumulation arises from the fact that the Volga navigation being closed from the latter part of November to April, the year's supply must be conveyed into the interior of Russia and placed in storage during eight months. An interesting feature of the working of this system of tank wagon distribution may be witnessed at Messrs. Nobel's office at St. Petersburgh. A map of Russia is marked with the various depots and connecting railroads, and the clerk in charge being furnished from time to time throughout the day with telegrams informing him of the movements of the 60 petroleum trains, indicates the position of each train on the map by means of a small flag.

Until recently Messrs. Nobel were fully occupied in supplying the home demand for burning oil, but during the past year they have transported a considerable quantity across Russia into Germany, Austria and Belgium, and it is contemplated to ship oil from Libau in tank steamers.

The following estimate of the cost of Russian kerosene delivered in Stettin, has been published by the Nobel Company:

	Per gal.
Cost of the kerosene delivered at Tsaritsin on the Volga, including general charges and a reasonable profit	1 5/8d.
Railway freight in Nobel's tank cars from Tsaritsin to Libau	1 5/8d.
Charge for wear and tear of tank cars	1/2d.
Freight from Libau to Stettin	5/8d.
Proportionate cost of barrel at Stettin, with storage, discharging and leakage	1 5/8d.
Total cost	6d.

Other firms have followed the example of Messrs. Nobel in the organizing of bulk transport. The Caucasus and Mercury Company propose to provide tank steamers and barges capable of conveying 120,000 tons of oil from Baku to Tsaritsin on the Volga during the eight months that the navigation of the river is open, and have arranged with a Russian company for the conveyance of the oil from Tsaritsin by rail, and its distribution throughout Russia.

A glance at the geographical position of Baku will show that there are two principal outlets for the petroleum to western countries, namely: by the Volga, and across the Caucasus to the shores of the Black Sea. Hitherto I have dealt only with the former outlet, but as the latter promises to be at some future time of vast importance, I propose to describe it in detail. It is well known that a line of railway 560 miles in length now connects Baku with the port of Batoum. A portion of this line was constructed many years ago, but the section connecting Baku and Tiflis has not very long been completed. It was anticipated that the railway from Baku to Batoum would have furnished a means of transport for large quantities of petroleum, but unfortunately, from motives of economy, the older portion of the line was carried over what is known as the Suram Pass, which has an elevation of 3,000 feet above sea level, and the gradient being in some places as much as 1 in 22, a train is limited to only six tank cars, though two Fairlie engines are used to draw it up the incline. The line also being a single one the traffic is congested, and I was informed that the transport of petroleum from Baku to Batoum, which costs about 1d. per gallon, has recently occupied from four to fourteen days. In order to overcome the difficulty, it is proposed to establish a storage depot on the Baku side of the pass, about 160 miles from Batoum, where the tank cars would discharge their contents, and from this point to lay a pipe line over the pass to Batoum, so that the oil may be pumped up to the highest point and allowed to flow down to the shores of the Black Sea. It is the opinion of competent persons with whom I discussed the subject, that before Batoum can become a very important place of shipment for Baku petroleum, either the pipe line to which I have referred must be constructed, or the railway improved by laying a second line of rails and making a tunnel five miles in length through the Suram Pass.

The cost of the pipe line is estimated at 3,000,000 of roubles, while the tunnel would probably cost 8,000,000 to 10,000,000 of roubles. In any case extensive tank storage must be provided at Batoum, and it is thought that if, pending the construction of a pipe line or tunnel, there were adequate means of receiving and storing the oil at this port, the present railroad, if properly managed and provided with the necessary rolling stock, would be sufficient for the transport of from 40,000,000 to 50,000,000 of gallons per annum. Mr. Burkhardt, of

Batoum, informs me, in a letter received recently, that during the year 1884 there were shipped from that port about 14,500 tons of kerosene, 4,500 tons of lubricating oil, and 4,700 tons of astatki or residuum; a total of rather more than 6,400,000 gallons.

When I traveled over the line there were nominally 400 tank wagons for the conveyance of petroleum, but I was informed that less than 300 were available for use. I have, however, quite recently learned that the Russian Government has authorized the expenditure of 5,000,000 roubles in improving the means of transport of petroleum across the Caucasus, and that 750 new tank cars, 28 Fairlie locomotives, and extensive tank storage at Batoum and other points are at once to be provided. The sum of 3,000,000 roubles is now being spent upon harbor works at Batoum, and it is possible that before long petroleum may be shipped in tank steamers from this port.

The following table, for which I am indebted to Mr. Sacker, gives the distances in Italian miles of some of the principal petroleum markets of the world from Batoum and New York respectively:

To.	From Batoum.	From N. Y.
Alexandria	1,312	5,030
Algiers	1,978	3,586
Amsterdam	3,317	3,586
Antwerp	3,185	3,348
Bremen	3,442	3,348
Havre	2,990	3,348
Genoa	1,910	4,075
Gibraltar	1,810	4,075
Hull	3,242	4,075
Hamburg	3,452	3,576
Leghorn	1,855	3,576
Liverpool	3,110	3,000
Lisbon	2,121	2,980
London	3,190	3,240
Malta	1,417	3,240
Marseilles	2,041	3,913
Naples	1,586	4,200
Palermo	1,507	4,145
Smyrna	860	4,882
Trieste	1,768	4,982
Constantinople	582	5,260

At the present time practically the whole of the tank storage of Batoum is owned by Mr. Palaschkowsky, who has also a factory fitted with all the newest American machinery for turning out 6,000 tins and 3,000 wooden cases per day. I have already referred to this form of package as employed in the shipment of petroleum to hot climates. The cost of the complete case made in Batoum is 92 copecks (less than 2s.), viz: 28 copecks for the wood case and 32 copecks for each tin. American barrels are worth in Batoum about 6s. 6d., and barrels made in Baku cost about 8s.

It is contemplated to provide a third outlet for Baku petroleum by the construction of a railway line from Petrovsk, on the Caspian Sea, to Vlodikavkaz. The line would be about 160 miles in length, and its estimated cost rather more than £1,500,000. It has also been proposed to connect Novorossisk with Vladikavkaz and Baku with Petrovsk by rail.

The astatki is usually conveyed from Baku to Tsaritsin and other points on the Volga in sailing vessels and barges. When this fuel can be cheaply conveyed to Batoum or Poti it seems likely to compete with coal, of which about 300,000 tons are annually shipped, chiefly from England, to Black Sea ports.

The two principal routes to Baku are: 1. Via the Black Sea and Transcaucasian Railway. 2. Via the Volga and the Caspian Sea. For those who can spare the necessary time, I would strongly recommend from personal experience the following circular tour: London to St. Petersburgh, via Hamburg, Copenhagen, Gothenburg and Stockholm. St. Petersburgh to Nijni Novgorod, via Moscow. From Nijni Novgorod down the Volga to Astrakhan. Astrakhan by steamer to Baku. Baku to Batoum by Transcaucasian Railway. Batoum to Constantinople by Austrian Lloyd's steamer, touching at Trebizonde and other places of interest as well as great natural beauty, on the coast of Asia Minor. Constantinople to London by the Orient express, or if time permits, home by way of Athens and the Adriatic. This journey is not far short of 8,000 miles in length, without the detour to the Piræus, and occupies about two months, including a reasonable time spent at various places of interest. It may be materially shortened by proceeding overland to St. Petersburg and by taking the rail from Moscow to Tsaritsin, thus cutting off a good deal of the tedious, but in some respects interesting Volga journey of 1,800 miles from Nijni Novgorod to Astrakhan. The Constantinople route home is also by no means the shortest from Batoum, and those who are pressed for time should take the steamer to Odessa. A route which is highly spoken of by those who have traversed it is from Rostoff-on-the-Don to Vladikavkaz by rail, and thence to Tiflis on the Transcaucasian Railway by road through some of the finest mountain scenery of the Caucasus. The shortest route from London to Baku is via Berlin, Odessa and Batoum. By this route Baku is about 2,500 miles from London, and may be reached in ten or twelve days without material discomfort or fatigue. As Baku is undeniably a hot place in summer, the visitor should not arrive there before the middle or latter part of September, and if the Volga route be selected Nijni Novgorod may thus be visited on the way to Baku before the closing of the great fair.

Professor Dewar, in thanking Mr. Redwood, called attention to the valuable results to be effected by utilizing the volatile portion of the product obtained by distillation, for working gas engines.

Sir F. A. Abel, in supporting the thanks, spoke of the application of the least volatile petroleum products as fuel for locomotives and steamers, and said he felt perfectly sure that, not only in the mercantile marine, but from the small torpedo vessels to the large men-of-war, where the saving of space was of such great importance, the introduction of liquid fuel would prove a new era in maritime power.

Replying to an inquiry as to the differences between Russian and American petroleum, Dr. Armstrong said that Russian petroleum was a material of very great interest to the chemist, as there could be little doubt that it was entirely different in composition from American petroleum. The American oil, it is well known, contained little besides hydrocarbons of the Methane or C_nH_{2n+2} series. According to Markovnikoff and Oglobine (*Ann. Chim. Phy.* 1884, [6] 2, 372-484), whose investigations appeared to merit every confidence, the Russian oil contained a very considerable portion of benzenes (pseudocumene, several isomers of cymene, and also of its next homologue), and of other benzenoid hydrocarbons; it chiefly consists, however, of hydrocarbons of the C_nH_{2n} series, isomeric both with the Olefines or true homologues of ethylene, and with the hexhydrides of the benzenes. These latter hydrocarbons exhibit the closest resemblance to the paraffins; but are of higher density than their isologues. They are attacked by chlorine, yielding chlorinated derivatives; but on oxidation are completely destroyed without furnishing characteristic products. The following is a list of the hydrocarbons of this group, which have been separated from the Russian oil:

	B. P.	Density at 0° C.		Density at 0° of isologous normal Paraffin.
C_8H_{16}	119	·7714 grm.	per cent.	·7188 grm.
C_9H_{18}	136	·7808	"	·733 "
$C_{10}H_{20}$	161	·795	"	·7456 "
$C_{11}H_{22}$	180	·8119	"	·7557 "
$C_{12}H_{24}$	196	·8025	" (at 17°)	·7655 "
$C_{14}H_{24}$	240	·8190	"	——
$C_{15}H_{30}$	247	·8293	"	——

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO NOVEMBER 30, 1885.

1882.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge Bbls.
May	6,765	-----	------	6,765	218
June	91,102	------	------	91,102	3,035
July	268,294	------	------	268,294	8,655
August	753,752	------	------	753,752	24,317
September	690,072	------	------	690,072	23,002
October	290,246	3,712	------	293,958	9,483
November	146 587	8,810	------	155,397	5,180
December	98,582	17,342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883.					
January	102,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	133,321	4,761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217.408	7,247
May	68,406	118,682	29,501	216,589	6,987
June	66,453	125,988	58,839	251,280	8.376
July	58.619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8,178
September	48,553	96,024	111,700	256,077	8,536
October	40,677	102,748	133 248	276,673	8,925
November	32,711	97,516	114 233	244,490	8,150
December	32,885	89,164	116,747	238,796	7,703
Total	755,512	1.095,558	776,244	2,627,314	7,198
1884.					
January	23,787	90,145	87,061	200.993	6,484
February	28,062	108,543	81,649	218,254	7,526
March	31,020	143,571	87 193	231,784	8,445
April	31,191	226,850	71,989	230, 40	7,668
May	30,010	107 514	70,069	207,593	6,696
June	25,348	89.554	67,508	182,410	6,080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
September	19,590	64,648	63,453	147,691	4.923
October	13,824	56,151	55,211	125.186	4,038
November	12 689	39,065	42,025	93,779	3,126
December	12,600	38,621	36,864	88,085	2,841
Total	264,942	1,004,849	807,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25.469	62,262	2,224
March	11,558	23,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71.2 6	2.297
June	13,181	29,998	31.340	74 519	2.484
July	14,478	28,095	31,990	74,563	2,405
August	11,247	28,603	28,828	68,678	2,216
September	9,367	27,531	28,315	65,213	2,174
October	13,269	24,104	28,677	66,050	2,131
November	9,078	21,224	30,909	61,211	2,040
Total Nov. 30, '85	3,487,962	2,447,988	1,897,914	7,833,864	5,980

The above table gives the statistical history of the Cherry Grove, Cooper aud Balltown fields from the time oil was first run in each district up to November 30, 1885. Cherry Grove has produced 3,487,962 barrels, Cooper 2,447,988, and Balltown 1,897,914 barrels. The daily average runs from the three fields during November were 2,040 barrels, a decrease of 91 barrels from the October figures.

The daily average runs from the Cooper and Henry's Mills section for November were 707 barrels. for October 777 barrels, for September 918 barrels, for August 923 barrels, and for July 906 barrels.

The Balltown field had a daily average of 1030 barrels in November, 925 barrels in October, 944 barrels in September and 930 in August. Cherry Grove averaged 303 barrels in November and 428 barrels during October against 312 barrels in September, 363 in August, 467 in July, and 439 in June.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to November 30, 1885. inclusive, has been 7,833,864 barrels, a total daily average of 5,980 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND COGLEY RUN.

The runs from Baldridge siuce April 1, 1884, aud from the Cogley district since May 15, 1885, have been as follows:

Month.	Baldridge Runs.	Daily Average
April	25.325	844
May	32,885	1,061
June	29,070	969
July	27,545	889
August	26,134	843
September	79,324	2,644
October	187,068	6,034
November	284806	9,493
December	270,644	8,730
January, 1885	192,180	6,199
February	205,774	7,349
March	224,398	7,239
April	280,005	9,333
May	232,138	7,488
June	105,774	5,905
July	119,531	3,856
August	70,318	2,268
September	60,637	2,021
October	58,834	1,898
November	44,081	1,469

	Cogley. Runs.	Daily Average.
April	3.927	127
June	18 266	609
July	37,848	1,220
August	65,570	2,115
September	97,325	3,244
October	153.110	4,939
November	162,476	5,416

For the seven months ending with November 30 the Cogley oil field has produced 538,522 barrels of oil, a daily average of 2,706 barrels. Previous to May 15th Cogley oil was included with the general runs of the old Clarion field. The daily average for November shows an increase of 477 barrels over October, while October increased its runs 1,695 barrels a day over September. The Thorn Creek and Baldridge runs averaged 1,469 barrels a day in November, 1,898 barrels in October and 2,021 in September. This is exclusive of the runs by the Pittsburgh Pipe Lines, which take about 800 barrels a day from the St. Joe and Thorn Creek districts.

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virgiuia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11.894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441
August	73,858	23,82
September	68,110	2,270
October	63,619	2,053
November	60,928	2,031

THE Exports of Petroleum stand fourth on the list in value, having in 1884 (the fiscal year ending June 30) reached the immense amount of 513,660,092 gallons, valued at $47,103,248: and in 1885, 573,668,180 gallons, valued at $50.257,947, an increase of about $3,000,000 over the value of the exports of the preceding year.

THE obelisk in Central Park, New York, has been completely covered with an impervious coat of paraffine, and Mr. Caffall, the inventor of the process, says it is now prepared to face the snows and rains of the next twenty-five years. The effect of the coating is to make the stone a shade darker, which is expected to become lighter again by degrees.

MR. T. A. WALLEY, formerly a well-known torpedo man of Olean, uow of Denver, Colorado, writes that the Wyoming Oil Field is over 100,000 acres in extent, and to his knowledge there are no mining men connected with any of the property. Two companies from Denver, one from Omaha, one from Pennsylvania and one from New York are interested in the development of the new region.

OIL REGION CHRONOLOGY.

FOR NOVEMBER, 1885.

Nov. 1 (Sunday). AGE Oil Report shows 397 wells completed in October, 44 of which are dry; new production, 5,613 bbls.; new rigs, 330; old rigs, 93; wells drilling 394; total field operations for October, 817; increase over September, 5.

Nov. 2. Light business in the market. Opens at 111 5-8, advances 1-4c., sells down to 110 5-8 and closes at 111 1-8. Carrying rates—Oil City and Pittsburgh 55c., Bradford 70c., New York 75c. Fire in Clark & Warren's refinery at Corry; loss $4,000, fully covered by insurance. Gordon well, Washington, doing 96 barrels per diem. W. W. Hague makes a 10-barrel strike at Grand Valley, Warren county. Four carloads of oil shipped from Gordon well, making total shipments to date 5,009 barrels. Reep & Sutton well, O'Brien farm, Pontius district, Butler field, down and dry. Located 100 rods southwest of Westerman well on Frederick farm. The bull-ring of defunct Producers' Exchange, Bradford, set up and christened at Oil City Exchange. The following postmasters appointed: South Oil City, Miss Josephine Doty; Stoneham, Chas. Schimmelfest; Dallas City, E. W. Bassett; Duke Centre, P. L. Golden; Pleasantville, G. L. Haworth; East Sandy, J. K. Haggerty; West Fair View, John Dunbar.

Nov. 3. Election day. No market in New York. Trading very quiet. Closes firm at 111 1-2. Oil City votes by a majority of 60 to restrain cows from running at large in her streets. John T. Boughner, of Bolivar, N. Y., while taking down a rig near Rixford, Pa., is struck on the head by a falling board and killed. Reiber well, McCandless farm, Butler, down and dry. McJunkin well on the Doerr farm is a heavy gasser. Pliny Parker well on Fuller farm, Kinzua village, showing for small producer. William D. Pierce appointed postmaster at Grand Valley, Warren county.

Nov. 4. Market weaker. New York selling. Opens at 111 3-8 and closes weak at 109 3-8. Downward movement in sympathy with stocks. Carrying, 80c. in New York. Gordon well makes 92 barrels. Titley well, on Titley farm, Butler county, in sand and flowing 100 bbls. a day. Dale Bros. No 3, on Hetzler farm, Red Valley, pumps 100 bbls. the first day. A. B. Rowley appointed postmaster at Eldred.

Nov. 5. Market opens weak, half a cent below last night's closing prices. Opened at 108 7-8, rallied to 109 5-8, broke to 107 5-8, jumped to 108 and closed at 108 3-8. The *Evening Call*, a new Bradford daily, makes its bow to the public. Gabby well, Washington, deep enough for Gordon sand, but no improvement noticeable in amount of oil in the hole.

Nov. 6. Market gravitating downward. Opens at 108 3-4; highest 109 1-8; lowest 107 1-4; closes at 107 7-8. Carrying, 55 to 60c. A gas well, shot at Findlay, Ohio, is reported to be flowing 300 bbls. of oil per day. Johns & Britton are heavy buyers of certificates in New York, and Roe and Tedcastle are both instrumental in bidding up the market. Gordon well makes nearly 100 barrels last 24 hours. Leasing lands very active in Washington county. Dyer, Willets & Young well on A. Smith farm showing oil in the Gantz sand. Nineteen producing wells in the Red Valley or Rockland district, Venango county, with an estimated yield of 750 barrels. Titley well, Butler county, strikes lower pay-streak and its output is increased to 9 bbls. per hour. Armstrong well, on Duffey farm, 13 miles northwest of Butler, reported in sand and showing oil. Kepler well on Webber farm, 60 rods west of developments at Cogley, through sand and dry.

Nov. 7. Market weak on account of conflicting reports from the Gabbey well. Opens at 107 3-4 and breaks to 107 3-8. Rallies to 108, vibrates back to 107 1-2; last hour firms up and closes at 108 1-2 bid. Eight drilling wells and eleven rigs up and building in the Washington Field. Titley well three feet deeper in the sand and flowing at a 400-barrel rate. Sam Armstrong's well, on Duffy farm, Muddy Creek, is a failure.

Nov. 8. Sunday.

Nov. 9. Market excited. First sales at 108 1-2, which is highest point of day. One million barrels of long oil sold in New York. Britton lays down a half-million long. Closes at 106 3-4. Dyer, Willetts & Co. well on A. Smith farm spraying oil from Gantz sand. A. L. Kern's well, northeast corner of lot 540, Warren county, through Cherry Grove sand and dry. Titley well, Butler county, is doing 135 barrels a day. Well at Findlay, Ohio, stops flowing. Its total output is about 300 barrels. The Lima well is pumping 25 barrels.

Nov. 10. Market opens at 107 1-4. Steadies up and closes at 108 bid. Carrying rates—Bradford 65c., New York, Oil City and Pittsburgh 55c. Canoe Station of the National Transit Co. at Cogley Run destroyed by fire between 12 m. and 4 a. m. The engineer, George Cuffman, burned to death. His remains were found in the debris, and the origin of the fire is unknown.

Nov. 11. Market opens at 107 3-4; advances to 108, weakens to 106 7-8 and closes at 107 3-8. Bearish feeling continues to prevail among traders on Bradford Exchange. Carrying rates—Bradford 65c., New York 60c., Oil City 50c., Pittsburgh 55c. F. J. Cleminger well, warrant 3767, four miles southwest of Kane, agitates the oil trade a little, but is afterwards reported not yet in sand, and delayed by broken jars, which are in the hole. Well is property of Craig & Cappeau.

Nov. 12. Kane well begins to attract attention. Reported under guard and making 50 barrels. Market opens at 107 1-4 and creeps up gradually to 108 1-4. Heavy selling in the "Western" Exchanges by manipulators of the Kane mystery. At last hour market broke to and closed at 107 1-8. Blackmarr-Scofield suit over 25,000 barrels of oil called at Smethport. Hooks Bros. well, Meyers farm, near Reep, on the eastern belt, Butler county, dry in both sands. Death of Hon. C. V. B. Barse at Olean, the owner of the great Barse oil-producing tract in the Bradford field, aged 67 years and 11 months.

Nov. 13. Market opens weak, with decidedly downward tendency, but remains rather quiet all day, ranging from 106 3-4 to 107 5-8, and closing at 106 7-8. Carrying rates 50 to 60c. Kane well makes a flow.

Nov. 14. Trading in the Exchanges unusually light. Bradford floor trade is carrying no oil, and the shorts seem to have covered most of their sales. Market closes at 107. Carrying rates 45c. in Oil City, 55 in Pittsburgh, and 60c. in New York and Bradford. All quiet at Kane. Suit of Blackmarr vs. Scofield, for $5,125, a difference on 25,000 bbls. of oil, sold by Blackmarr to Scofield, in February, '83, decided in favor of Blackmarr by Smethport Court. Reorganization of the Oil City Board of Trade.

Nov. 15. (Sunday) Officer J. W. McCleery shot twice by John Titus, near the Methodist church, Bradford, while attempting to arrest him for assaulting his wife. The officer only slightly injured. Owners claim that Gordon well has averaged 104 barrels per diem, for 39 days, and is doing 100 still. Lautz well, Willow Tree

district, Greene county, reported at 7 and the Girard No. 1 at 5 barrels per day.

Nov. 16. Market dull and inactive, ranging between 107 1-8 and 107 1-2. Speculative eyes begin to center on the Kane well. Rock Glycerine Co.'s factory at Minard Run, above Custer City, explodes for the fourth time. No loss of life. Oil under the derrick floor at the Gantz well ignites and the rig is saved with difficulty.

Nov. 17. Market proves a complete surprise; opening at 107 1-2 it advanced rapidly to 108 1-8. It vibrated about this point until about 1:30 p. m. when it boomed to 108 5-8, at which point there was a good deal of local selling. It then jumped to 109 1-4, and just before the bell rang passed over the 110 point and closed at 110 1-8 bid. Carrying rates—Oil City and Pittsburgh 55, Bradford 65 and New York 70 cents. Refined market is also advanced from 8 1-2 to 8 5-8 cents. C. E. Tucker's glycerine factory, with 1000 pounds of the explosive, destroyed at Corwin Center. No lives lost. Wm. McNiel, an old moonlighter, found dead in an alley off Main St., Bradford. Alcoholic poisoning.

Nov. 18. Big stampede in the market, from reports that Kane well is flowing. Opening at 110 1-4 it broke to 110, rallying to 110 3-4 and then sold off with few reactions to 108 1-4. It rallied to 109, then broke rapidly to 105 7-8, firmed up to 107 and vibrated about 107 1-2, finally closing at 107 1-4 bid. Carrying rates—Bradford 25 cents, Oil City 50, Pittsburgh 55, New York 65. Limestone school house burned to the ground. Insurance, $4,400. Scouts admitted to the Kane well, and report it as having flowed through the plugs at the rate of 70 barrels a day. John Madden, a driller, at Dr. Bolard's well on the Mangel farm, Thorn Creek, has his leg broken and receives severe internal injuries by being thrown against the bull wheel, owing to the brake on the wheel giving away. Fire at Clarion; loss $10,000. Explosion of tank of oil at the Philadelphia Lubricating Works, Philadelphia, results in the killing of four men and serious injury of several others. Loss on works $30,000; insurance, $17,000.

Nov. 19. Market steadier after yesterday's excitement Opens at 107 1-2; rallies slowly to 108 1-4; sells down to 107 1-8 and closes at 107 1-2. Gabby well reported 2571 feet down and below the level of Gordon sand, with no increase in its output. Scouts and field men who have been watching the well leave for Kane. Well in the town of Findlay, O., is dry. The brick yard well flows about half the time. Nothing has been done with the oil. J. B. Smithman strikes another gas well, southeast of the Speechley gassers, near Oil City.

Nov. 20. Market goes from 107 1-2 to 103 7-8; closes at 104 3-4. Anchor No. 1, at Kinzua Village reported drilled deeper in the sand and flowing at 50 to 100 bbls. per hour. The Kane well makes 79 bbls. first 16 hours after being connected with tank. The two reports combined to bring about a furor for selling, and the market went down with great rapidity. Carrying rates—Bradford, flat to 25; New York, 65 to 70; Pittsburgh, 50; Oil City, 45 to 50 cts. Bigham & Co.'s well No. 2, on Newell Run, twelve miles above Marietta, O., through sand and dry.

Nov. 21. Market strengthens up over night to 105 1-2, but opens weak at 105 1-4, and makes rapid breaks. The decline between 105 and 101 1-2 was made on light sales, there apparently not being a buyer in the market. Rallying to 102 3-4 the market again dropped to 99 3-8c., rallied to 100 5-8c., and broke to 99 1-2c. at the close. Carrying—Bradford flat, Oil City 45c., New York 35c., Pittsburgh, 50c. Anchor well at Kinzua village down to 20 bbls. an hour and declining fast. Refined advances at Antwerp and declines at New York. Acquittal of Col. A. Blakely, one of the defendants in the Murraysville riot cases, by a Pittsburgh jury. Kane well makes 160 bbls. in 41 hours ending at 9 a. m. to-day. During this time it was shut in 20 hours.

Nov. 22. Sunday.

Nov. 23. Panicky condition of market continues. Opens at 98 5-8, and goes down to 93, with very few sales. A slight rally and then another plunge to 90 1-4; strengthens up a little and closes heavy at 91 7-8. Anchor well reported at 300 bbls., Kane well at 84. Rumors that Standard and Armor have combined to manipulate the market, and that Seaboard Bank demands 20 cent additional margin on oil collaterals. Failure of W. H. Johnson, of the New York Petroleum Exchange. Pittsburgh, Oil City and Bradford general sellers. Carrying—Bradford flat, Oil City 50, Pittsburgh 55, New York 60. Death of Capt. James G. Campbell, a prominent merchant and old-time politician of Butler, aged 74.

Nov. 24. Market active and values extremely sensitive. Opens at 92; sells down to 90, rises to 96; closing at 95 1-2. Carrying rates 45 to 55c.

Nov. 25. Market opens strong at 96 1-2, a full cent above yesterday's close; rises to 97 3-4 and goes down to 93 3-8, closing at 95 1-4. Carrying rates 30c. to 50c.

Nov. 26. Thanksgiving Day. No market.

Nov. 27. Market weaker. First sales at 95 3-8, which is highest point of day. Sells down to 93 1-4, rallies to 94 and closes at 93 3-8. Fred Streeter, a lad of 18, has his neck broken while at work on a well near Henry's Switch, in the Allegany field. Thomas McCall, a Butler county justice of the peace, commits suicide in the Shenango & Allegheny railroad station at Euclid, by shooting himself through the heart.

Nov. 28. Market ranges from 93 1-4 to 94 3-8, closing at 93 1-2. Carrying rates—Bradford 10 to 25c., New York 40 to 50 c., Oil City 30 to 40c., and Pittsburgh 50c. Refined market down to 8 1-8c. at New York.

Nov. 29 (Sunday). The Gantz well strikes the slate above the Gordon sand at 2,425 feet. First bit in the sand shows up fairly. Wm. Dwyer's two-story frame livery stable at Oil City burned. Loss $2,500.

Nov. 30. Market opens steady at 93 1-4 and advanced to 93 5-8, then broke to 89 3-4; reacted to 91 1-4, broke to 88, rallied to 88 7-8 and closed at 88 1-8 bid. Gantz well, Washington, three or four feet in the Gordon sand, and fills up 1,000 feet with oil. The hole caves 400 feet from the bottom. McJunkin well at Reibold Station improved somewhat by deeper drilling, and reported large by the Butler boys. Well not better than 5 or 6 barrels. C. C. Joy's well in Sugar Run section, McKean, dry in second sand, but will drill for third.

THE three natural gas companies which were granted permits to lay their mains in the streets of Jamestown, N. Y., have been consolidated under the title of the Pennsylvania Gas Company. It is the same organization that supplies Warren with natural gas. The corporation on January 1st will take possession of the property of the Jamestown Gas Company, which furnishes manufactured gas to the citizens, and possesses a valuable contract for lighting the streets of the town, which will not expire for years. The officers and directors of the Pennsylvania Gas Company are as follows: President, F. P. Hays; Vice President, J. P. Jefferson; Treasurer, Francis Henry; Secretary, W. H. Filler. Directors—D. O'Day, C. H. Noyes, J. P. Jefferson, M. Murphy, Joseph Seep, W. T. Scheide, F. P. Hays.

ABOUT SOME OIL REGION PEOPLE.

COL. H. B. PLUMMER, of Franklin, Pa., who has lately been appointed Naval Officer of the port of Philadelphia, was one of the incorporators of the Galena Oil Works, limited, of Franklin. After selling his interest in the Galena works, he became one of three owners in the Erie Car Works, at Erie, Pa. Col. Plummer's capabilities will enable him to meet the expectations of his numerous friends in the discharge of the duties of the important office to which he has been appointed. The salary of the office is $5,000 per year.

Gen. Harrison Allen, United States Marshal of Dakota, formerly of Warren, Pa., has been superceded by Capt. D. W. Maratta, of Bismarck, Dak. The General is such a staunch Republican that his suave ways failed to make his position secure under a Democratic administration.

Hon. C. S. Carey, of Olean, formerly President of the O., B. & W. R. R., has been appointed one of the Commissioners of the Union Pacific R. R.

F. A. Dailey, formerly of Bradford, is now a member of the New York Exchange.

Prof. H. C. Bosley, formerly superintendent of schools in Titusville and Bradford, and at one time a member of the Bradford Oil Exchange, has taken up land near Hazelton, Kansas, and is now superintendent of schools at that place, and sometimes does local preaching.

O. J. Wilcox, of Bradford, has become a member of a firm of contractors and builders at Lincoln, Neb.

Frederick H. Newell, M. E., of Bradford, has lately been employed on the geological survey of the Macksburg oil field. He is now located in Bradford.

W. A. Earseman, who has been operating for gas in Washington county with J. M. Guffey and others, has returned to the northern end of the oil region, and assumed the duties of general superintendent of the Anchor Oil Co.'s wells and field operations. Mr. Earseman has enlarged his geological knowledge through a valued experience in the last two years.

Mr. John Flynn, formerly a popular merchant at Edenburg, Pa., and Richburg, N. Y., has been appointed postmaster of Duluth, Minn. Duluth is a thriving city of 18,000 inhabitants, situated at the western end of Lake Superior, and is the lake terminus of the Northern Pacific R. R. Mr. Flynn has many friends in the region who rejoice with him in his good fortune.

D. W. Longwell, formerly with the United Lines in the Bradford and other fields, is drilling wells for gas and salt water at Kansas City, Mo.

W. B. McCartney, of Four Mile, N. Y., is drilling for gas in the suburban towns about Kansas City, Mo.

Hon. W. F. Jordan, proprietor of the Harrisburg *Sunday Telegram*, has placed J. J. McLaurin in the editorial chair of his paper. With such able assistants as "J. J. M.," and Manager J. M. Place, "Admiral" Jordan will keep the *Telegram* far to the front. The paper is now owned and manned by oil region journalists.

J. C. Tennent, the well-known oil scout, has purchased 960 acres of land near Hazelton, Kansas, where he has lately been on a visit with his family.

Mr. A. W. Smiley, of Foxburg, Pa., has given up the idea of going to the Soudan since the abandonment of the railroad between Suakim and Berber, and now buys oil for Mr. Joseph Seep, at St. Petersburg, Pa.

A. F. Allen Brown, of Jamestown, is visiting friends in Scotland. After making $25,000 in natural gas at Bridgewater, Pa., he concluded to take a vacation.

J. A. Tomlinson, of Edenburg, who drilled a number of test wells about Tylersburg, has leased a large amount of land in Beaver county, Pa., for gas and oil purposes.

Prof. I. C. White, a geologist well known through his valuable work in the oil fields to geologists and many producers, has a professorship in the West Virginia University at Morgantown, W. Va.

L. H. Smith, ex-President of the New York Petroleum Exchange, has made a wager that the Washington oil field will not produce enough oil in any 30 days of the year 1885 to make ten certificates.

J. S. Campbell the popular Burgess of the venerable town of Butler, was married on the 7th of October to Miss Jennie E. Rogers, daughter of Dr. J. R. Rogers, of Attica, N. Y. The elite of the borough attended the reception tendered Mr. and Mrs. Campbell on the evening of October 29th. Mr. Campbell was interested with K. H. McBride in drilling the famous McBride well at Thorn Creek.

W. H. Siviter, late manager of the Oil City *Derrick*, holds a position on the Pittsburgh *Chronicle-Telegraph*.

Mr. John Walton, a gentleman well known in the Clarion and Bradford fields, where he acted as superintendent for Wesley Chambers, has charge of mines in Colorado for Mr. Chambers and others at a handsome salary.

Honest "Tom" King, who had charge of 646 while it was being mystified, is drilling wells for gas in Beaver county.

Tim Mullin has taken up his residence in Denver, Colorado.

Geo. E. Allen, who posed as a lazy man while running the Bradford *Star*, is making a success of the *Railway Magazine*, a monthly devoted to travel and transportation, which is published in Buffalo, N. Y.

Boverton Redwood, the noted English scientist, who has contributed so largely to Petroleum literature, visited Bradford during September, in company with Supt. Wm. M. Irish, of the Acme Oil Works at Olean.

W. H. L. Smith, of Boston, a member of the Downer Kerosene Oil Co., visited Bradford during October. Mr. Smith laid out the city of Corry, was its first Burgess, and is still interested in its prosperity.

Mr. J. M. Clapp and family, of Tidioute will pass the winter on the Pacific Slope.

W. T. Scheide and the Grandins are operating in the Washington field under the firm name of Hallam & Co.

Rol. R. Richardson, a member of the Oak Shade Oil Co., and Bradley & Co., and one of the pioneer pipe line men in the Clarion field, is largely interested in cattle ranches in the west. He has headquarters at Tucson, Arizona.

Pres. and Mose Lupher have large wheat farms in Dakota. They are missed in the rank and file of producers.

Mr. H. C. Babcock, of Jamestown, N. Y., represents the Vandergrifts in the Washington field. They have lately opened an office in the venerable town of Washington, which is fitted up with an eye to comfort.

Mr. J. W. Gillerman, manager of the Lake Shore Oil Co. of Cleveland, died suddenly in New York on the morning of Nov. 10th. Mr. Gillerman had lately accepted a lucrative position with the Standard Oil Co., and had gone to New York to settle his business with the old company prior to assuming the duties of his new situation. Mr. Gillerman was 26 years of age, and leaves a young wife to mourn his early death.

Mr. W. H. Doan, of Cleveland, the leading manufacturer and dealer in naphtha and gasoline throughout the West, has just donated to Cleveland a new music hall which will seat 5,000 people. The hall was dedicated on Sunday evening, November 9th, and formally opened by a grand musical festival which continued throughout the following weeks. Governors and ex-presidents were in the audience, and the world's great singers took part in the concerts. Mr. Doan is said to have been the first man to have used wooden tank cars in the transportation of oil.

Messrs. James Mackin, of Wellsville, and Crane, of Hornellsville, were in Bradford a few days ago in pursuit of oil-burners. They expect to increase the consumption of oil by aiding in their general introduction and use.

Mr. C. F. Allen and family have gone to the Bermuda Islands where they will pass the winter. Mr. Allen is one of the AGE'S valued contributors, and his many friends will be glad to hear that he is recovering from a painful illness which has continued for eight months.

Mr. E. H. Jennings, who has been one of the largest dealers in the trade for a number of years, has quit the bull ring for the field where he is giving his personal attention to his varied and extensive oil interests.

Richard Jennings, the veteran oil producer of Queenstown, is one of the finest looking and best preserved man of his years in the oil business in the region.

Edward L. Rose, of Wheeling, W. Va., manager of the Howe Machine Co., was in Bradford during the closing days of November. He had come north to visit his friends and see one of his wells on the Bingham lands drilled into the sand.

On the 30th of September H. B. Robinson, chief of the civil engineers employed by the National Transit Company, in his usual quiet but efficient manner of doing things, was married to Miss N. Lida Wilson of Port Royal, Pa., daughter of Rev. Robert F. Wilson, the Presbyterian clergyman officiating at that place. Mr. Robinson graduated from the civil engineering department of Cornell University in 1874, and has since been a hard student of his professional work. He has met and solved many engineering problems connected with pipe lines which could not be based on the precedents of the past, for the science of pipe line work is not found in the mathematical rubbish through which the civil engineer must thread his way by severe application. Mr. Robinson's devotion to his profession borders on the heroic, and his numerous engineering friends had concluded that he would not fall in with the allurements of "lovely woman." Mrs Robinson is a lady of attractive social qualities, and was a favorite with the people who found a welcome about the parsonage. Mr. and Mrs. Robinson are passing the winter in Bradford.

Mr. R. M. Jennings, son of Richard Jennings, Esq., the veteran producer, and Miss Ella Henry, daughter of W. C. Henry, assistant superintendent of the National Transit Company, were married at the home of the bride's parents in Bradford, on the 4th of November, Rev. R. N. Stubbs, of Corry, officiating. The wedding was largely attended by the society people of the city, and was the finest affair of the season. The young people starting out under such pleasing auspices were the recipients of many valuable presents.

John B. Drake, one of the band of tried and true oil scouts, has charge of an extensive cattle ranch of which he is part owner, at O'Neil City, Holt county, Neb. Mr. Sid. B. Drake, a prominent member of the Oil City Exchange, is interested with his brother in this western enterprise.

On the afternoon of Nov. 5th Mr. L. E. Fuller, the popular Secretary of the Bradford Oil Exchange, and Miss Kate M. Groves, daughter of S. A. Groves, were married at the home of the bride's parents in Bradford, Pa. Rev. Edward Bryan, pastor of the Presbyterian church, in which Mrs. Fuller is the accomplished organist, performed the ceremony. While on their wedding tour Mr. and Mrs. Fuller visited Ithaca, N. Y., where the groom was formerly a student in the engineering department of Cornell University. The "Chaplain" and his fair bride have the best wishes of his old comrades in the newspaper business for they know of his good qualities of head and heart.

Washington.

The Washington field has not swelled its production since the Gordon well was finished, but there is a steady increase in new operations each month. On account of the rather high rates at which land is held and the deep drilling which renders the work of operating expensive, only the large firms and companies are seeking for crude wealth in the field. The following is the list of rigs up and building and wells drilling, as it was on the last day of November:

Farm.	Owners.	Depth.
Gordon,	P H & L Co No 2	1650
"	" No 3	rig
"	" No 4	rig
Hess,	" No 1 (fishing)	2173
"	" No 2	1240
McClane,	"	650
Gantz,	C O & G Co No 1 (fishing)	sand
J S Wilson,	" "	1850
Weaver	"	drilling
Hall,	T J Vandergrift No 1	500
Weirich,	" No 1	1320
S Wilson,	"	rig
Weirich,	Union Oil Co No 1	rig
McGovern,	"	rig
Weirich,	Coast & Sons No 1	180
Lead Works,	Mulholland & Co No 1	350
"	Caldwell & Marsh	rig bldg
Clark Heirs,	Thayer & Stettheimer No 1	1200
"	" No 2	rig
Brownlee,	Hallam & Co	rig
Clark Heirs,	" No 1	rig
Montgomery,	Niagara Oil Co No 1	1600
Gabby,	Pew & Emerson No 1	Gordon sand
Barre,	" No 1	rig
Smith,	Young, Willetts & Dyer No 1	Gantz sand
Davis,	Conroy & Johnson No 1	rig
Cradle Factory,	Guffey & Miller	rig bldg

Drilling	15
Rigs up and building	12
Total	27

The patient scouts who have watched the Pew & Emerson well on the Gabby farm, for weeks, have concluded that she has not been improved by drilling into or through the Gordon sand. The well is a small producer from the upper or Gantz sand.

The Washington *Reporter* gives the production of the Gordon well from August 31st up to November 28th, inclusive, as 7,183 barrels. The production of the well from Nov. 5th to 28th, inclusive, did not vary more than a barrel per day.

IT is now definitely settled that the new pipe line, which was to extend from Franklin to New Castle Junction, passing through the Butler and Baldridge fields, is a myth, and that there was nothing in the reports so industriously circulated through the press last month.

THE PETROLEUM AGE,

DEVOTED TO THE

INTERESTS OF THE PETROLEUM TRADE.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR,
BRADFORD, PA.

W. C. ARMOR, Manager.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid).....$3.00 per Year, in Advance
Subscription Price (Postpaid).....$1.75 per 6 months in Advance
Foreign Subscription.....$3.50 per Year in Advance
Single Numbers.....30 Cents
The Bradford office of the AGE is in the Producers' Exchange Building.

THE PRODUCING REGION.

THE month of November started in with 330 new rigs, and 394 drilling wells. Of this total 724, 388 wells were completed, which on the last day of the month were estimated to have a daily output of 4,583 barrels. The number of dry holes was 53, leaving 335 productive wells, with an average yield of about 13½ barrels. During October the entire region completed 353 productive wells and 44 dry holes, and the average of the new wells October 31 was estimated at about 16 barrels each. At the close of November there were 283 new rigs, 105 old rigs, and 389 wells drilling in the entire region. There have been no additions of any magnitude made to the older regions, but prospectors have been attracted to new developments at Kinzua village, in Warren county, the vicinity of Kane, in McKean county, the Red Valley or Rockland pool, in Venango county, and the deep sand territory about the county seat of Washington county.

ALLEGANY FIELD.

The Allegany field supplied nothing of a startling nature during the month recently closed. Only 51 new wells were completed and four of these were dry. The average of the new wells is small, being about 5½ barrels. The Clarksville addition on the northwest has been narrowed down to rather insignificant proportions by small results from several experiments, of which better things were expected. On the southwest of the extension, the Dow well, on lot 35, proved so very small, that the owner after making several attempts to convert it into a respectable producer, abandoned it in disgust. Operations in that neighborhood were immediately struck with a cold wave, and the streak in that direction is now entirely destitute of friends. On the northeast, the Book & Shannon well, lot 55, Wirt, is rated at from three to four barrels a day. It prolongs the belt about two-thirds of a mile in advance of the Barton & Ackerly on lot 63. The venture of Ackerly, Barton & Co., on the Hamilton farm, lot 6, was hopelessly dry. It was on a good line, between the main Clarksville developments and the Nile wells, and pinches the connection down to very narrow proportions. The success of the Book & Shannon well lends color to the belief that the correct connecting line will be found to the south of the one that has hitherto been the favorite of the Clarksville operators. The National Transit Company drilled a well for gas on lot 12, Clarksville, which proved worthless for either oil or gas, while Lester, Jordan & Co. found gas, instead of the oil for which they were searching, on the A. L. Jordan farm, along the south line of lot 60, Wirt. The Hazelwood Oil Co. also finished a gas well on lot 33, Wirt. Since the first of the month the Barnum & Leasure wild-cat in the town of Willing, has been reported a failure. Dan Kane has a venture on lot 12, Alma, that is outside of present developments.

On the last day of November there were 43 new rigs, 38 old rigs and 70 drilling wells in the Allegany field, a total of 151, and a net increase of 12 over the October figures. The pipe line runs from Allegany averaged 6,667 barrels a day in November, 7,081 barrels in October, and 6,647 barrels in September.

THE BRADFORD FIELD.

The decline in the price of oil has had a discouraging effect on the Bradford producer who has made investments in old production at advanced figures, and the pipe line runs show that the results of the heavy shooting of the fall months are already passing away. Six more wells were completed in November than in October, but the production of the new wells is not so great as that of the October wells by 112 barrels. Three dry holes are recorded for November, one on the Donnell farm, near Custer City, one on the Mack lands, up Marilla Brook, and one on the Kamery farm, south of Olean. The new work is quite evenly distributed throughout the great Northern Field, only two sections, Knapp's Creek and Four Mile, showing an increase over last month. In various parts of the region the only locations remaining on properties are now being drilled. The rich Simpson streak of the Cole Creek front, that has so long helped swell the output of the Bradford field, has passed almost entirely out of the monthly reports. The Union Oil Co. has no more territory to drill, and the Associated Producers' Co. has but one well drilling and no rigs building.

The region between the Bradford and Allegany fields is again being prospected over by the sanguine wild-catter for another black sand field. The Thompson & Veazy venture on Five Mile Run, in the town of Allegany, Cattaraugus county, was shot in an upper sand, without results, and is now being drilled for a lower oil formation that is supposed to exist in that section. Conroy & Johnson have a test near the sand in the same locality, south of the Thompson & Veazy well, and nearer to Allegany village. Several thousand acres have been leased by the different parties and a number of careful tests will probably be made.

On the last day of November there were 43 new rigs, 38 old rigs and 70 drilling wells in the Bradford field, making a total of 151, and an increase of 12 over operations for October 31st. The November pipe line runs averaged 29,117 barrels, October 30,828 and the September 30,151 barrels a day.

WARREN AND FOREST.

Interest in the Middle Field received a powerful impetus during November, from the developments at Kinzua village and Kane. The first named pool is close to the western border of McKean county, while the latter, a field in prospective only, at the present writing consists of a single well on the southern edge of McKean, and may find the greater part of its area in either of three counties, Warren, Elk or McKean.

On November 19 the first well of the Anchor Oil Co., on the Morrison lands, which was drilled 26 feet into the producing sand last September, and which had settled down to 8 or 10 bbls. a day, was improved by deeper drilling to 50 bbls. an hour. Its gange for the ensuing 24 hours was about 800 bbls., and three days later it had declined to 375 barrels a day. On December 11, it was doing 150 barrels. Anchor No. 4, completed in November, had no showing of oil until 12 to 15 feet in the sand. It was drilled through the oil-producing rock, and started

pumping at 25 bbls. a day, increased to 40 bbls. and is now doing about 25 bbls, a day. This well, with the light well of Wm. Fogel, on the W. S. Harris farm, 35 rods northwest, and the duster of James Parker & Co., on the M. Harris, adjoining, denote that the edge of the belt on the north has been reached. Anchor No. 5, about 2,000 feet northeast of No. 1, was drilled a short distance in the sand on December 1st. It showed considerale gas in the top of the stray, and is now flowing 250 barrels a day. Bovee & Duck's well in the southeast corner of 3726, about 600 rods ahead of the Anchor wells, on a northeast line, is a failure. T. N. Barnsdall is conducting an experiment on warrant 3724, 240 rods southeast of the Anchor No. 5, and C. P. Collins and the McCalmont Oil Co. have a well drilling on the same warrant, about 80 rods south of Anchor No. 5. C. C. Joy & Co.'s well on the Chattel lands, warrant 3712, in the Sugar Run section, is a duster. Between Kinzua village and Wardwell Miller & Odell drilled a dry hole, at their No. 2, on the Meads lands, warrant 2921.

The annex to the northeastern part of the Balltown field supplied little of interest during November. The field now appears to extend easterly from the Minister Run to the southwestern borders of the Cooper section. The oil is found in two distinct sand horizons. The well of Steelsmith & Ross, on warrant 4791, is a great improvement over the wells drilled on the same tract farther west. The McCalmont Oil Co. made a brace of 50-barrel strikes on lot 408, in the Cooper district, and operations are picking up on the old streak of oil-producing territory between Lower Sheffield and Henry's Mills.

The Middle Field completed 91 producing wells and 11 dry holes, a total of 102 in November. The new production is 77 barrels a day less than the October estimate. On the last day of the month the monthly count revealed 84 new rigs, 13 old rigs, and 84 drilling wells, a total of 181, as compared with 186, the total at the close of October. The district stretching from Stoneham on the north to Farnsworth on the south, and which follows the general direction of the P. & E. R. R., completed 60 of the whole number of wells, and supplied 121 of the rigs and drilling wells in the Middle Field at the close of November.

THE LOWER COUNTRY.

Venango county is noted for the diversity of its producing sands and its numerous small pools of oil territory. Operations are active in various parts of the county, and the aggregate of wells completed and new work under way at the close of the month swells into respectable proportions. There were 50 wells completed in Venango county in November, and on the last day of the month the new rigs number 48, the old rigs 8, and the drilling wells 50. The Red Valley or Rockland section is the point of most active operations. Here a dry hole on the Prior farm several miles to the north, and the Bishop Bros.' duster on the west, did but little in the way of outlining this prolific pool. Dale Bros. completed two wells on the Hetzler farm in November, that were doing about 80 barrels each on the last of the month. Since the 1st of December a brace of dusters on the northern end of the development, in close proximity to Wentling & Mull's and Duncan & Lowentritt's good well thoroughly head in the pool at that end. Heydrick & Fuller, on the Gates farm, south of the river, also complete a dry hole, which gives the southwest extension a poor outlook. The Forest Oil Co.'s well on the Furnace tract, is pronounced good for 5 barrels. Rider & Simpson struck a good vein of oil in the mountain sand at a comparatively shallow depth, and are pumping the oil out at the rate of 5 barrels per day. The Tarkill district, southwest of the Speechley gas wells, six miles from Oil City, is inviting the attention of several would-be mystery-makers, but up to the present nothing very extraordinary has been effected.

According to the average daily pipe line runs the Cogley oil field increased its production slightly during November, but the count at the close of that month showed a marked decline in the volume of new operations. Toward the close of the month the roads became nearly impassible and this had a tendency to check the work of rapid development with operators who had territory to drill. The principal work of the drill is however completed, and the field at this writing has the appearance of being defined. E. E. Chambers & Co., who were seeking to prolong the streak to the southwest as far as Ninevah, have relinquished the project since the completion of a dry hole on the R. Weaver farm. The western border line at the northeastern end of the field was removed several steps eastward by the failure of the Hall & Kepler well on the Weber farm. Hite & Co. drilled a dry hole on the Flynn lease of the Kale farm. The Slicker and the Beals farms each contributed a dry hole to the half-dozen which were found in the county. During November 83 wells were finished in the Cogley district, producing on the last day of the month 2,000 barrels. In October 92 wells were named in the completed list with a yield on the last day of the month of 2,538 barrels. Six dry holes were found in November and 12 during the previous month. The monthly count showed 34 new rigs, 12 old rigs, and 66 drilling wells, a total of 112, against an aggregate of 163 on the last of October.

The wild-cat list of rigs up and building and wells drilling in Butler and Armstrong counties continues quite large, and some of the wells have a geographical position which commends them to the notice of the trade. At this writing, Dec. 12th, Phillips Bros.' well on the Witt farm, three miles northeast of the Leidecker well on Rough Run, is drilling at a depth of 1,225 feet. Phillips Bros. also have one drilling on the Wright farm, 150 rods west of the one drilled on the Caldwell property, and another on the A. L. Shrader property. They have a rig building on the Johnson farm, 30 miles north of the Barre farm well, which is pumping 8 barrels. The McJunkin well on the Fehl farm, north of Reibold, is pumping 18 barrels daily, and Hume's & Co.'s well on the Belford farm, west of Mars Station, has a daily yield of from 6 to 8 barrels The Fisher Oil Co.'s well on the Thompson farm, in Middlesex township, near the old well drilled by Hart & Conkle on the Mahan farm, is reported dry in the upper sands and is supposed to be shut down on the top of the fourth. Craig & Cappeau have a well drilling on the Chandler farm, southwest of the Mahan farm, at a depth of 200 feet, and a rig up on the Lefevre farm. The Titley well on the Titley farm east of Millerstown, is rated at 100 barrels in the list of wells finished. It was the only good well found in that section during November. Of the 33 wells completed in Butler and Armstroug counties during November 16 came in dry. The new production from all of them was but 348 barrels, In October 31 were finished producing 438 barrels, and eight of the number were dusters. On the last of November there were 20 new rigs, 6 old ones, and 39 wells drilling in this old field, a total of 65—the same number as on the last day of the previous month.

STOCKS accumulated at the wells in the Allegany and Bradford fields during November.

NOVEMBER OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN NOVEMBER, 1885.

Allegany Field.

Twp.	Owner.	Barrels.
Scio, 1,	Anderson Bros & Bryson	5
" 2,	R H Lee No 6	6
" 2,	Allen & Sternberg No 9	6
" 12,	Griffin & Co No 7	6
" 51,	Duke & Norton Oil Co No 60	8
Alma, 3,	Triangle Oil Co No 17	5
" 20,	W F Coast	5
" 38,	Pikeville Oil Co No 8	4
" 81,	Shirley & Hoelstetter No 3	3
" 85, (Costello)	" No 1	3
" 86,	" No 7	5
" 85,	Asso'd Prod Co No 3	5
" 140,	Willetts, Duke & Rauber No 9	5
Wirt, 33,	Hazelwood Oil Co	gas
" 34,	(Drum) J B & E C Bradley No 2	8
" 42,	Geo C Knox & Co	6
" 48,	Hatch & Phillips No 2	4
" 48,	Wirt Petroleum Co No 2	6
" 49,	EB Barton No 1	5
" 52,	(Shaw) E T Johnson No 3	5
" 52,	Johnson & Wilson No 3	4
" 52,	Wilson, Bros & Ackerly No 8	6
" 52,	Jacob Jordan) Barton, Ackerly & Smith No 1	8
" 52,	(J W Jordan) Luce & Hembert No 1	10
" 60,	(Alvah Jordan) J H Snow No 2	5
" 60,	T Clemenger No 1	5
" 60,	(A L Jordan) Lester, Jordan & Co	gas
Bolivar, 7,	Coast Oil Co No 34	5
" 7,	Stett & Montgomery	5
" 23,	Irwin & Morgan	6
" 23,	F C Streeter & Co No 9	6
" 24,	Riley Allen No 6	5
" 63,	Johnson & Northrop No 16	8
Genesee, 24,	Dusenbury & Wheeler No 4	6
Clarksville, 6,	(Hamilton) Ackerly, Barton & Co No 7	dry
" 6,	(Wetherbee) Ackerly, Barton & Co No 8	2
" 10,	Angell Oil Co No 8	10
" 10,	Whipple & Davis No 11	8
" 10,	" No 12	8
" 10,	Steel & McKelvy No 1	7
" 12,	National Transit Co No 61 (for gas)	dry
" 13,	(Wixon) Barton & Aekerly No 2	2
" 13,	(Congdon) M M Congdon No 3	6
" 20,	(Ernhout) Ackerly & Sammel No 20	10
" 20,	(McDougal) Mack Oil Co No 4	5
" 20,	(Zimmerman farm) (Clarksville Oil Co No 5	5
" 20,	(Zimmerman farm) Clarksville Oil Co No 6	5
" 28,	(Butts) Coast & Finnegan No 5	4
" 28,	(Butts) Love, Patterson & Co No 10	5
" 28,	(Peckham, W J Penny & Co No 3	5
" 35,	Dow & Snyder No 1	2

Wells completed 51
Production 263
Dry 4

Bradford Field.

Drake, H C Zeigler No 4		6
Dent, P C L & P Co No 65		8
Newell, J T Jones No 22		10
" " No 23		10
" " No 24		10
Drake, " No 24		10
" Rolfe Bros No 27		10
Donnell, Wilbur Bros No 2		gas
Moody, Emery Oil Co No 105		7
Warrant 2268, R J Straight No 14		15
Bingham, lot 186,	" No 4	5
" lot 190,	Amm & Co No 63	8
" lot 190,	" No 64	8
" lot 154,	Union Oil Co No 18	8
Tuna't Coa Lands, Waugh & Porter No 6		10
Stinson, Connolly Bros No 3		8
Kissam, Chapman & Co		3
Craft, Archer & Roy No 16		5
B O Co Western Oil Co No 2		5
" " No 5		10
Blair, J J Carter		10
Mack Lands, F E Boden		dry
Young lot, S W Newell & Co No 1		4
Scott, J H VanWormer No 4		4
Taylor Tract, Ent Transit Co No 37		8
94, Quintuple, J Stettheimer No 7		8
175 " W L Curtis & Co No 12		8
Melvin, P, C L & P Co No 87		3
Lafferty, VanVleck & Gifford No 42		10
Willets, I Willets No 28		8
Morton, Dan Clark No 4		5
Cummings, H T Breese		4
Baum, R Jennings & Son No 10		8
Kansas Branch, Vincent & Keeny		8
E T Co, Kirwin & Co No 2		8
" " No 3		8
" H Schanlis No 1		8
C, B & H, Pace, Walker & Co No 3		8
" R Y Mitchell No 12		8
" Young & Co		5
" Watson Oil Co No 39		10
" " No 40		10
" " No 41		10
" J S Patterson, No 9		8
" Fitzgibbons & Evans No 10		6
" Neff Bros No —		8
Willetts, Neath Bros No —		5
Tew, H W Tew		5
Van Campen, Barnsdall & Stearns No 8		10
Stevens, Coast & Curtis No 6		10
" Wm Stevens & Son		8
C B & H, James Smith		6
Kamery, C V B Barse		dry
Hamlin, John Oberlin		5
Zimmer, Forest Oil Co No 7		8
Cooper, C P Collins No 1		4
Barse, Union Oil Co No 37		10
Weston, J L McKinney & Co No 5		5
Templeton Pnr, P. A. Templeton		6
Mercereau, Williams & Murphy		5
Bingham, lot 536, Union Oil Co No 31		12
" lot 496, " No 1		15
" lot 497, " No 1		15
" lot 580, Ass Producers Co No 54		10
" lot 540, T J Melvin No 11		10
" lot 440, Platt & Say No 9		8
Warrant 2243, Emery Oil Co No 43		8
U O Co, Dew Drop, Vanscoy & Rapp		5

Wells completed 68
Production 512
Dry 3

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village,

Marsh, Collins & Morse No 4 (est)		20
Fuller, Pliny Parker & Co		6
Rollin, Borchert & Smith No 3		30
Wm Harris, Wm Fogel & Co No 6		8
" " No 7		4
Morrison Heirs, Anchor Oil Co No 4		15
Milt Harris, Jas Parker		dry
3726, (J D Harris) Bovee, Duck & Co		dry
Culbertson, Porter & Conley		dry

Warren.

Wardwell, Benedict & Rockwell No 27		8
" " No 28		25
" King & Windsor		2
Rankin, McWilliams Bros		6
Lacey, Bradley & McDonald No 6		6
Davis, Davis Bros No 6		5
Shultz, John Shultz No 3		5
Asylum (North Warren) Sanford & Jamieson		5
2921, (Mead) Miller & Odell No 2		dry

Wells completed 18
Production 165
Dry 4

Clarendon.

35, Henderson & Murphy No 3		4
55, Union Oil Co No 28		6
496, O W Beatty & Bros No 12		8
496, Fred Hne No 10		6
496, " No 11		7
496, J B McElwaine No 6		6
465, J Smith & Son No 13		5
464, Branch & Co No 2		4
495, Wm Paget No 5		5
499, Munro & Finnegan No 6		7
499, " No 7		6
495, S M Ross & Co No 1		3
80, D J Thayer, No 12		10
104, " No 1		4
106, Ross & Hopewell No 1		5
106, F H Rockwell & Co		6
531, Alfred Short & Co No 2		6
558, Goss, Goal & Haskell No 4		6
558, Farbell & Co No 1		5
526, Keatley Bros No 11		5
527, F H Rockwell & Co No 19		6
540, A L Kern		dry
591, Clark, Foster & Co		8

Wells completed 23
Production 128
Dry 1

Tiona.

83, Booth Bros No 1		10
82, J L & J C McKinney No 7		7
82, " No 8		6
82, J L & J C McKinney No 9		7
82, " No 10		8
103, (lot 17) " No 2		8
103, " " No 3		6
103, " " No 4		7
103, " " No 5		7
103, " " No 6		6
103, (lot 15) " No 10		7
103, " " No 18		8
104, " No 8		3
110, (lot 9) " No 1		5
110, " " No 3		5
165, " No 13		3
104, R R Armor No 9		6
161, O'Donnell & Tobias No 10		10
164, Howe, Work & Moore No 2		6
200, Bovee & Duck No 5		6
204, Mandell Oil Co No 8		8
203, Booth Bros No 3		4
201, R M Brown & Co No 8		5
201, Short & Dunham No 2		6
201, L H Best No 6		6
201, Wesley Chambers No 2		8
201, Helm & Mealey		6
202, E O Emerson No 2		gas
202, " No 3		5
240, Pickett & Farnsworth No 1		6
240, F W Winger No 1		6
240, (Tidewater) E O Emerson No 7		6
240, S C Rhodes No 1		dry
241, L Kraeer & Co No 17		7
244, Horton, Crary & Co No 5		8
245, Shoelkopf, Horton & Co No 5		5
281, (Ford Lease) L Kraeer & Co No 4		6

Wells completed 37
Production 225
Dry 2

Cooper District.

E T Co, Fertig & Henre		5
407, Shank & Stewart No 10		25
407, " No 11		15
408, McCalmont Oil Co No 24		50
408, " No 25		40
438, Schuyler & Emery No 25		15
438, " No 26		6

Wells completed 7
Production 156

Balltown.

740, Harry Dufur		gas
3195, (Crissman) N F Clark No 8		50
3195, " " No 10		50
3195, Stone " No 6		30
3198, Ragan & Goff		5
4821, Balltown Oil Co No 27		25
4792, Howe Oil Co No 19		15
4791, Steelsmith & Ross		25
5215, May, Kelley & Grandin No 37		25

Wells completed 9
Production 225
Dry 1

Miscellaneous.

McKean, 214, D & J G Curtis & Co		dry
Forest, 3561, W B Roberts & Son		5

Grand Valley.

Selkirk, Kepler & Stewart No 5		5
C H Emerson, G P Kepler No 5		4
Milo Emerson, W W Hague No 1		8
Spring Creek, (Gilson) M Stewart No 2		dry
Jas B Kerr, M Stewart		dry
Campbell, Wood & Co		3

Wells completed 8
Production 25
Dry 3

Lower Country.

Venango.

Farm.	Operator.	Barrels.
Davis Corners, (Lovell)	Anchor Oil Co	dry
McCalmont, S P	McCalmont	dry
Noble, Octave	Oil Co No 8	5
Grandin, Milton	Stewart	dry
Pit Hole,	Shoemaker	4
Kerr, U C	Welton	2
Pet Center, Tarr farm,	Kulp & Co	3
Simms, Kulp & Co		4
McKinney, Geo	Ready	3
Hasson, Hasson		dry
Pioneer, H R	Davis	3
Blood, Peter	Bankson	4
McCray, Wm	McCray	3
Gillespie, Gillespie & Co		dry
Oberly, J H	Oberly No 6	5
Diamond, Darr & Manning	No 8	6
Lee Hicton, Roess Bros	No 10	8
McPherson, O C	Fuel Supply Co No 5	dry
Kaufman, P H	Judd No 4	10
Rembold, Shaffer & Dale		5
Allison, Fisher Oil Co	No 9	5
Morrison,	" No 5	5
Dale, (Sawtown)	J B Smithman	gas
Webb, Taylor & Torrey	No 1	6
Baum, Tarkill Oil Co		dry
Sam Pyle, Koeh Bros		dry
Gailey, Kugler & Gailey	No 11	10
Mt Hope (Balt Tract)	Schultz & Co	dry

Bullion, Hovis, W J Hovis 10
" (Surena) Hoffman & Co 3
Raymilton, Phillips & Perrine ..... dry

Rockland.

R Porter, Flynn, Klingler & Co No 3 30
" " " No 4 25
J Hetzler, Wentling & Mull No 2 25
Hetzler, Dale Bros No 3 80
" " No 4 70
J Jolly, " No 3 (est) 30
Batten, Steelsmith, Duncan & Porter No 1 15
J Jolly (school house lot) Duncan & Lowentritt 60
Parson, Jamieson & Furniss No 2 6
Wicks, W H H Piper No 1 20
" " No 2 20
Bishop, Bishop Bros ..... dry
Prior, Jack & Co ..... dry

Vicinity Emlenton.

J M Black, Weible & Boyce 6
Jew Tract, Jamison & Thomas 8
Leewalter, Leewalter 4
J W Smith, Sheasley & Co 8
Weller, John Weller 5

Wells completed 50
Production 521
Dry 13

Clarion.

Cogley Run.

Beals, Wesley Chambers No 3 20
" Koch Bros, & Feeley No 1 ..... dry
Shorts, P H Judd & Co No 4 7
Edmunds' Heirs, Urquhart & Lavens No 2 7
E Slicker, div 6, Koch Bros & Maxwell No 1 ..... dry
" div 9, G Utzinger & Co 15
—Slicker, div 11, S S Fertig & Co No 2 35
" div 11, " No 3 25
" div 12, Wesley Chambers No 2 35
" div 12, Wesley Chambers No 3 20
" div 13, Shaffer & Sheasley No 3 40
" div 13, Shaffer & Sheasley No 4 40
John Henel, Koch Oil Co No 2 25
" " No 3 50
Hess, L Oil Co No 1 15
" Kerr & Berringer No 1 25
" " No 2 25
J M Deitrich, Booth, Gifford & White No 1 25
John Deitrich, Telegraph Operators' Oil Co No 1 12
" Kale Bros & Co 20
Gillingham, Doyle, Gill & Co No 11 60
" " No 12 50
" " No 13 40
Black, " No 3 30
" " No 4 50
" Hess & Sackett No 5 20
" " No 6 40
Geo Hess, W H Milligan No 2 30
Rickenbrode, Ashland Oil Co No 5 15
" " No 6 20
Strutman, H C Zeigler No 1 15
J M Deitrich, Cogley Oil Co No 4 40
Conrad Kinnemuth, Cogley Oil Co No 1 15
Berlin, Patterson & Leedom No 9 20
" " No 10 10
John Deitrich, Lovell & Co 45
" " 40
" " 50
Fern, White & Gifford No 5 50
Young, Hale & Moriarty No 4 5
Fowles, McCalmont Oil Co No 10 50
" " No 11 10
Ben Hess, Finnegan & Munro No 9 45
Crownobie, " No 1 40
" " No 2 15
Barber, Barber No 3 40
John M Deitrich, Kiser & Co No 4 (est) 25
" Riddle & Co No 6 25
" Holt & Morrow No 3 40
Heeter, Heeter Bros No 3 40
" Kribbs & Knight No 2 10
" Thos Hulings No 2 4
W L Hess, Emlenton Oil Co No 3 40
" S P Morrison No 2 15
Beals, Beals, Hunter & Co No 5 40
" Kiser & Hollenshead ..... dry
Geo Hess, H H Stow & Co No 2 10
" " No 3 15
Sowers, Hite & Walters No 3 30
" Sheasley & Shaffer No 1 30
John Kinnemuth, J M Deitrich & Co No 2 30
H J Smith, Geo LeFlemme & Co No 1 20
" Swartzfeger & Co No 1 20
Baum, Berlin & Co No 3 30
" " No 4 20
" " No 5 10
" McLellan & Co 25
Kale, Hite & Co ..... dry
Kinnemuth, Chauncey Oil Co No 6 15
Catherman, Weaver & Taylor 15
Henry Weber, Hall & Kepler ..... dry
J Berlin, Shaffer & Sheasley No 1 15
Wm Mong, Heasley & McGee 2
Even Miller Pierce & Robinson 3
Hess & Sackett, Robert Long (est) 15
Leslie, Anderson & Hammond 15
Fritz, Mrs Joseph Wood ..... dry
Herrmann, Phipps & Martin No 1 30
B B Mimm, Peter Fertig & Stewart 5
Widow Deitrich, Staley & McDonald No 2 40
" " No 3 40
" " No 4 40
" J M Deitrich 20
Baker, Irving 15

Wells completed 84
Production 2015
Dry 6

Butler and Armstrong.

S Pontius, Hunter & Cummings No 6 40
Mars Station, Belford, Clark & Puzzy (est) 5
" Kennedy, Crawford & Co ..... dry
Muddy Creek, Fisher Oil Co ..... gas
Freedin Boad & Armstrong ..... dry
Keelting, Bruner & Co ..... dry
Keister, G G Stage & Co ..... gas
O'Brien, Reep & Sutton ..... dry
McCandless, Reiber (gas) ..... dry
Doer, Kunkle & Co. (gas) ..... dry
Th s Mechlin, Phillips Bros ..... dry
Barr, " (est) 10
Tittley, Tittley & Co 100
Eminger, S M Boyd, & Co 15
M Myers, Sabine, Hooks & Co ..... dry
Joseph Hartman, Dale, Bruce & Larkin ..... dry
Hartman, McJunken & Bredin 5
George King, W S McCullough ..... dry
A B McCain, Ireland Brown & Marshall ..... dry
Jenkins, McKay & Co ..... dry

Martinsburg.

R H Campbell, Campbell & Co No 2 10
John Kelley, W A Kelley 20
Bell, Elliott & Co ..... dry
Wm Story, Beatley & Co 8
John Keeley, Mildren Bros 15
Robert Story, W J McKee 5
Cooper, J S Cooper 15
Gibson, Brackney & Co ..... dry
Black, McKee & Coyle 10
John Kelley, Smith & McNees 15
Doods, Forest Oil Co (est) 15

Thorn Creek.

McLaughlin, Bennett & Hoffman No 2 50
Hazlett, J S Campbell No 2 10

Wells completed 33
Production 348
Dry 16

DRILLING WELLS,

RIGS UP AND BUILDING NOVEMBER 31, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
1,	(Neff) Pickering & Smith	1000
1,	" "	rig
2,	" Ilbrig & Co No 3	400
2.	Coast Oil Co No 37	sand
2	" No 38	rig
2,	Pennell & Co No 2	drilling
3,	Coyle (old)	rig
4,	Mackin & Breckenridge No 12	sand
4,	" No 13	rig
11	(O Norton) Maxson O 1 Co No 8	700
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 10 (old)	rig
47,	(Church) Union Oil Co No 8	100
50,	Union Oil Co No 9 (old)	rig
51,	Duke & Norton Oil Co No 61	rig

New rigs 4
Old rigs 4
Drilling 7

Total 15

Alma.

2,	H L McMullan No 13	drilling
3,	Triangle Oil Co No 18	sand
3,	" No 19	rig
3,	Weeter & Baldwin No 3	drilling
12,	(Dugan) Dan Kane & Co No 1	300
19,	(Allen farm) Duke & Norton Oil Co No 55	350
19,	" " No 56	rig
19,	" " No 57	rig
19,	" " No 58	rig
19,	" " No 59	350
20,	W F Coast	drilling
23,	Vance & Horton (old)	3 rigs
24,	New Milford Oil Co (old)	2 rigs
24,	W F Jones (old)	rig
26,	Willetts & Elliott (old)	rig
37,	Perrin & Young No 12	rig
37,	" No 13	1000
51,	Sawyer & Co (old)	rig
78,	Torry & Pirden No 3 (old)	rig
81,	Shirley & Hochstetter No 4	sand
85,	(Martha) " No 1	drilling
86,	Shirley & Hochstetter No 48	sand
109,	" No 1 (old)	rig
85,	Asso'd Producers' Co No 4	drilling
86,	Brown & Thornton No 1	700
86,	" No 2	rig
88,	Duke & Co (old)	rig
100,	Mosier & Reddy No 2	rig bldg
106,	Thornton & Dobbins No 6	drilling
120,	McCalmont Oil Co No 9 (fishing)	1150
120,	" No 10	drilling
140,	Willetts, Duke & Rauber No 10	500
142,	Dean & Smith No 5 (old)	rig

New rigs 7
Old rigs 12
Drilling 17

Total 36

Wirt.

1,	Applebee Bros No 9	rig
9,	(Fernell) Kilbury & Williams No 2	400
9,	Unknown	drilling
33,	Wellman, Miner & Fuller	drilling
33,	Stewart Bros	drilling
34,	(Drum) J B & E C Bradley No 3	rig
43,	Geo C Knox & Co	drilling
43,	"	rig
48,	Nile Oil Co No 4	drilling
48,	Hatch & Phillips No 3	drilling
48,	Wirt Petroleum Co No 3	drilling
48,	" No 4	rig bldg
48,	A R Dougherty & Co No 1	drilling
48,	Love & Co No 2	rig
47,	John Gelm No 1	drilling
52,	(Jacob Jordan) Lester, Jordan & Co No 1	50
52,	(Shaw farm) E T Johnson No 4	drilling
52,	Johnson & Wilson No 4 (old)	rig
52,	" No 5	rig
52,	(J W Jordan) Luce & Hembert No 2	rig
52,	(Jacob Jordan) Barton, Ackerley & Smith No 2	800
52,	" " No 3	drilling
52,	" " No 4	rig bldg
55,	P M Shannon & Co No 1	sand
60,	A B Cottrell No 1 (fishing)	sand
60,	Alvah Jordan) J H Snow No 3	drilling
60,	" " No 4	rig bldg
61,	(Doyoe) Anderson & Bradley No 1	rig

New rigs 10
Old rigs 1
Drilling 17

Total 28

Bolivar.

7,	Coast Oil Co No 37	rig
7,	" No 40	drilling
7,	Stitt & Montgomery	rig
8,	(Swift) Manhattan Oil Co No 10	drilling
23,	Irwin & Morgan	rig
24,	Riley Allen No 7	drilling
24,	" No 8	rig
23,	F C Streeter & Co No 10	1000
23,	" No 11	rig
15,	(Sawyer) Smith & Sawyer No 19	drilling
15,	" " No 20	rig
30,	Fritz & Lowry No 8 (old)	rig
30,	" No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
31,	A H Coffin	drilling
33,	(Perry farm) D A Newton No 1	sand
33,	" " No 2	rig
63,	Johnson & Northrup No 17	300

New rigs 7
Old rigs 3
Drilling 8

Total 18

Genesee.

7,	Elsessor & Barnwall	50
14,	(Bliss) C W Scofield No 25	sand
14,	Merwin (old)	rig
22,	I Willetts No 14 (old)	rig
22,	" No 15 (old)	rig
22,	" No 16 (old)	rig
22,	" No 17 (old)	rig
22,	" No 18 (old)	rig
22,	" No 19 (old)	rig
22,	(Wells) Empire Gas & Heat Co Limited No 3	400
23,	Hughes & Coughlin (old)	rig
24,	Dusenbury & Wheeler No 5	drilling
24,	Emery Oil Co No 8	800
24,	" No 9	rig
24,	" No 10	rig
29,	William Cranston (old)	rig
38,	S E Young (old)	rig

New rigs 2
Old rigs 10
Drilling 5

Total 17

Clarksville.

1, I Willetts No 2 1400
3, (Millis) Chas Phillips No 1 ..... drilling
3, (S Bartow) National Transit Co No 63 (for gas) drilling
3, " " No 64 " rig bldg
6, (Seever) Ackerly, Barton & Co No 9 (old) ..... rig
6, (Swartout) Ackerly, Barton & Co No 10 (old) ..... rig
9, Heuston & Brecht No 4 (old) ..... rig
9, Merritt (old) ..... rig
10, Augell Oil Co No 11 ..... rig
10, " No 12 ..... drilling
10, " No 15 ..... rig bldg
10, " No 16 ..... rig bldg
10, Steele & McKelvy No 2 ..... drilling
10, Whipple & Davis ..... 2 rigs
10, (Crandall) Davidson & Co No 7 .. drilling
11, (Congdon) Ackerly, Barton & Co No 11 ..... drilling
12, (Thurston) Ackerly & Sammel No 26 600
20, (Ernhout) Ackerly & Sammel No 6 (old) rig
20, " " No 9 (old) rig
20, " " No 10 (old) rig
20, " " No 13 50
20, " " No 22 rig bldg
20, " " No 23 (old) rig
21, (Holmes) " No 27 rig bldg
20, (Zimmerman) Clarksville Oil Co No 9 ..... drilling
20, " Clarksville Oil Co No 10 ..... rig bldg
20, (McDougal) Mack Oil Co No 5 .. 400
20, " " No 6 .. rig
20, " Lord & Whitnall No 4 100
28, (Butts) Love, Patterson & Co No 11 ..... drilling
28, " " No 12 ..... rig
28, " " No 13 ..... rig bldg
28, (Peckham) W J Penny & Co No 4 rig
28, " McElwaine & Co No 2 600

New rigs 13
Old rigs 8
Drilling 14
Total 35

Miscellaneous.

Steuben County (Howard twp) Van-Campen, Lovell & Co drilling
136, Willing, Barnum & Co ..... drilling

New rigs 0
Old rigs 0
Drilling 2
Total 2

Bradford Field.

East and West Branches.

Delter, Book & Hawkins No 5 ..... drilling
Dent, Whitney & Wheeler No 40 (old) rig
Newell, J T Jones No 25 ..... drilling
" " No 26 ..... rig
" " No 27 ..... rig
Drake, " No 25 ..... drilling
Clark, P Hannan & Co No 4 250
" " No 5 ..... rig bldg
Donnell, Wilbur Bros No 3 ..... drilling
Cary, W H Duncan No 4 (old) ..... rig
Moody, Emery Oil Co No 106 600
" " No 107 ..... rig
" " No 108 ..... rig bldg
Nieur, R Jennings & Son No 1 ..... drilling
Warrant 2268, R J Straight No 15 .... sand
" 2268, " No 16 .... rig
Bingham, lot 190, Amm & Co No 65 .. 1000
" lot 152, Forest Oil Co No 15 rig
Kissam, Richard & Blakely ..... drilling
Tomes, Kincaid & Harper No 2 50
" Le Seouf & Co No 1 ..... rig
Craft, Archer N Roy No 17 ..... drilling
" " No 18 ..... rig
" " No 19 ..... rig bldg
Crooker, Geo Crooker ..... drilling
" E A Boyne No 1 ..... sand
B O Co, Westeru Oil Co No 4 ..... rig
" " No 6 ..... drilling
Cranmer, Columbia Oil Co No 7 ..... drilling
Mack, " (old) ..... rig
Mack, Fisher Bros No 19 (old) ..... rig
Mack, F E Boden ..... rig bldg
Wilson, O'Connell & George (old) ... rig
Newell, W H Duncan No 6 ..... drilling
Pomeroy, Wheatland Oil Co ..... drilling
Hatfield, Wesley Chambers ..... rig
Brown, W C Ward No 2 ..... sand
Boss, Smiley & Howe No 1 ..... drilling
Seward, Kemp & Laney No 3 200
Tay or Tract, Ent Transit Co No 38 drilling
Hinchey, McMurray Bros No 6 (old) rig
Whittaker, Frank Davis No 3 ..... drilling
Paton, McClure & Co (old) ..... rig
Clark, McCray Bros (old) ..... rig
Willis, do (producing) 550
Cockroft, Jas E Cochran, No 1 ..... rig bldg

Quintuple.

25, C W Scofield (old) ..... rig
44, J W Humphrey (old) ..... rig
220, Clark, Stearns & Co (old) ..... rig
260, E T Howes (old) ..... rig
105. Smith Seimen & Co (old) ..... rig
107, J S Wilson No 3 ..... rig
—, Camp & Zane No 13 (old) ..... rig

New rigs 14
Old rigs and shut down 15
Drilling 23
Total 52

Kendall Creek.

Borden, Urquhart & Lavens (old) ... rig
Lafferty, Van Vleck & Gifford No 43 50
" " No 44 .. rig
Brennan, A W Boyd ..... drilling
" " ..... rig
Farr, Hazelwood Oil Co No 7 300
Shield, John Hill ..... drilling
Turner, Perry Timblin ..... drilling
Fisher, Larrabee & Whedon No 9 ... rig
E T Co Forest Oil Co No 30 300
" " No 31 ..... rig bldg

New rigs 4
Old rigs 1
Drilling 6
Total 11

Knapp's Creek.

VanVleck, H M Miles 900
" " ..... rig
Banm, R Jennings & Son No 11 ..... drilling
Norton, F W Mitchell ..... drilling
White, Mitchell & Jones No 73 (old) . rig
Matthews, C B Whitehead No 6 100
Hamlin, J B Daniels & Co No 19 700
" " No 20 .... rig
Lovell, Hazelwood Oil Co No 16 300
Bingham, Waugh & Co No 16 ..... drilling
Allen, C W Scofield, No 10 50
Borden, Martin & Co ..... rig
Scio lands, Buchanan, Randall & Co rig
Grow, G N Grow No 1 50
Morse, J W Shyrock 50
Rixford, Dr Crispen ..... drilling
Ellis, C P Collins & Co ..... drilling
Dennis, D Clark ..... rig bldg
Keating, Forest Oil Co No 51 ..... rig bldg

New rigs 6
Old rigs 1
Drilling 12
Total 19

Foster Brook.

E T Co, Kirwin & Co No 4 ..... rig
" Coleman, Penny & Boyne No 12 ..... drilling
" Post & Blackmar (old) ..... rig
" H Schaulis No 2 ..... drilling
Forest Oil Co, Letson Bros No 4 ..... drilling
C B & H, Page, Walker & Co No 4 .. 1100
" " No 6 .. rig
" " No 7 .. rig bldg
" Mosier Bros ..... drilling
" Juter & Yager (old) ..... rig
" R J Straight No 12 500
" R Y Mitchell No 13 100
" Watson Oil Co No 42 ..... rig
" M Mandeville No 7 800
" Fitzgibbons & Evans No 6 . drilling
" J S Patterson No 10 ..... rig
" Caldwell, Boyer & Co No 8 drilling
Willetts, Howe Bros No 12 ..... rig
" " No 13 ..... rig
Foster, Tucker, Rolfe & Burns No 13 50
Wilcox, Allen ..... rig
Bell's Camp, Hughes & Co ..... rig

New rigs 9
Old rigs 2
Drilling 11
Total 22

Four Mile.

Van Campen, Wm M Brown (old) ... rig
" Barnsdall & Stearns No 9 500
" " No 10 rig
Waters, Griffin & Howard No 2 (old) rig
Fries, Franehot Bros 100
" " ..... rig bldg
Zaph, " ..... rig
" " ..... rig bldg
Stevens, Wm Stevens & Son ..... rig
Dye, Manhattan Oil Co No 5 ..... rig
Burlingame, Union Oil Co No 7 ..... rig

New rigs 7
Old rigs 2
Drilling 2
Total 11

Indian Creek.

North Branch, J D Dowling & Co (old) 2 rigs
Morse, Morse & Brown (old) ..... rig
Hamlin, Miller & Odell No 4 (old) ... rig
" Forest Oil Co No 37 600
" " No 38 ..... rig bldg
Zimmer, Forest Oil Co No 8 400
Cooper, " No 5 600
Hamlin, Sherman & Levens No 6 400
" " No 7 .... rig
Barse, Reeves & Bussell No 7 ..... drilling
" Jas Galbraith No — 600
" R Jennings & Son No 8 ..... rig
Barse, Union Oil Co. No. 38 ..... rig bldg
Ballard, L H Ballard ..... drilling
Weston, J L McKinney & Co No 6 ... rig bldg
Lee & Hallock, " No 16 .. drilling

New rigs 5
Old rigs 4
Drilling 8
Total 17

Cole Creek.

Warrant 2263, Union Oil Co No 6 (old) rig
" 2263, " No 7 (old) rig
Bingham, lot 495, " No 3 (old) rig
" lot 584, Asso Prod Co No 55 1000
" lot 5 8, C P Byron No 7 ... 800
" lot 538, " No 8 ... rig
" lot 577, Rose & McLeod No 5 sand
" lot 369, Bennett & Thompson No 10. rig
" lot 391, C W Scofield No 50 1500
" lot 540, T J Melvin No 12 .. rig
" lot 456, Bayne, Fuller & Melvin No 1 .... drilling
" lot 176, McCalmont Oil Co No 20 ..... drilling

New rigs 3
Old rigs 3
Drilling 6
Total 12

Kinzua.

Warrant 3084, Union Oil Co No 61 ... sand
" 3076, " No 62 ... rig
" 2243, Emery Oil Co No 44 .. sand
" 2243, " No 45 ... rig
" 2243, " No 46 ... rig bldg
Lot 129, P T & W C Kennedy No 8 .. 400
Niles Tract, Chapin & Co ..... rig

New rigs 4
Old rigs 0
Drilling 3
Total 7

Miscellaneous.

Five Mile Run, (Olean) Thompson & Veazie ..... sand
Near Allegany (Olean) C C Conroy & Co ..... drilling
Port Allegheny, (Eastwood) Wolf & Wilcox ..... drilling
Warrant 3669, sub 137 P F Kearns .... drilling
" 3712, C C Joy ..... sand

New rigs 0
Old rigs 0
Drilling 5
Total 5

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village.

Wm Marsh, Phillips, Collins & Co No 5 ..... sand
Marsh, Collins & Morse No 5 ..... rig
Fuller, " (old) ..... rig
Marsh, " ..... rig bldg
" Patten ..... rig bldg
Fuller, Pliny Parker & Co No 2 ..... rig
Rollin, Borchert & Smith No 4 100
Wm Harris, Wm Fogel & Co No 8 .. rig
English, B F Brown No 2 old) ..... rig
Morrison Heirs, Anchor Oil Co No 5 sand
" " No 6 rig
" " No 7 rig bldg
3729, (McClellan) Picket & Stone 300
Richardson, Barnsdall Bros ..... rig

Warren.

Wardwell, Benedict & Rockwell, No 29 800
" " No 30 ..... rig
" " No 31 ..... rig
" Island, Coggswell & Co No 4 ..... rig
2921, (Mead) C C Duffield & Co ..... drilling
Lot 41, (Kinzua) S B Logan & Co .... drilling
Rankin, McWilliams Bros ..... rig

Scott, Harley & Trubey 300
Island, Rhumor & Co ..... rig
Rogers, Barnsdall Bros No 14 (old) .. rig
" " No 15 (old) .. rig

New rigs 13
Old rigs 4
Drilling 8
Total 25

Clarendon.

35, Hazeltine & Bell No 10 ..... drilling
54, O W Beatty & Bro No 37 ..... drilling
54, " No 38 ..... rig bldg
78, " (old) ..... 2 rigs
496, " No 13 ..... drilling
496, " No 14 ..... rig
77, J Smith & Son No 4 ..... drilling
496, Fred Hue No 12 800
496, " No 13 ..... rig bldg
496, J B McElwaine No 7 ..... rig
464, Lockwood & Parsons No 14 600
464, Columbia Oil Co 300
495, Wm Pagett No 6 ..... rig
496, Wm O'Neill No 4 ..... rig
464, Branch & Co No 3 ..... rig bldg
—, Bines & Rogers, No 4 100
499, Munroe & Finnegan No 8 600
499 " No 9 ..... rig bldg
499, Capt Adams 800
526, E O Emerson No 10 700
526, " No 11 ..... rig bldg
527, F H Rockwell & Co No 17 300
527, " No 18 ..... rig
463, J B McElwaine & Co No 4 900
495, S M Ross & Co No 2 ..... rig
80, Tucker ..... drilling
80, Johnson & Irvine No 4 ..... drilling
80, " No 5 ..... rig
80, " No 6 ..... rig
80, D J Thayer No 13 600
104, " No 2 800
104, " No 3 ..... rig bldg
105, Bradley & Brankson No 6 500
105, Sam Tait Jr No 1 ..... sand
105, R I Shugert ..... sand
105, " ..... rig
106, Ross & Hopewell No 2 800
106, " No 3 ..... rig
107, W B Roberts & Son No 15 100
108, Fay & Lawton ..... sand
162, J A Dower No 5 ..... 4 0
526, Keatley Bros No 12 400
526, " No 13 ..... rig bldg
530, Goal Bros, No 5 (old) ..... rig
530, " No 6 (old) ..... rig
530, H B Porter No 13 800
531, Alfred Short & Co No 2 ..... drilling
531, " No 4 ..... rig
558, Sam Tait Jr No 42 ..... sand
558, Goss, Goal & Haskell No 5 200
558, " No 6 ..... rig
557, C C Duffield No 4 ..... rig bldg
584, Wm Pagett No 3 300

New rigs 21
Old rigs 4
Drilling 30
Total 55

Tiona.

83, Booth Bros No 2 300
83, " No 3 ..... rig bldg
59, J L & J C McKinney (shut down) .. sand
59, " No 2 ..... drilling
59, " No 3 ..... rig
103, (lot 17) " No 7 ..... drilling
103, " " No 8 ..... drilling
103, " " No 9 ..... drilling
103, " " No 10 ..... drilling
103, " " ..... rig
103, (lot 15) " No 19 ..... rig
103, " " No 20 ..... rig
103, " " No 22 ..... sand
103, " " No 23 ..... rig
104, " " ..... drilling
110, (lot 9) " No 4 ..... rig
83, " " ..... drilling
83, " ..... 3 rigs bldg
104, R R Armor No 10 800
104, " No 11 500
109, O F Schonblom No 10 ..... drilling
111, Wheedon & Shearer No 1 ..... rig
161, O'Donnell & Tobias No 11 ..... rig bldg
164, Howe, Work & Moore No 3 ..... rig
165, McKelvy & Best No 13 200
161, O'Donnell & Hill No 2 ..... sand
164, Helm & Mealey ..... rig
200, Bovee & Duck No 6 300
202, Mandell Oil Co No 9 ..... rig
201, " No 10 ..... rig
201, Short & Dunham No 3 700
201, R M Brown & Co No 9 ..... rig
201, L H Best No 7 300
201, " No 8 ..... rig
201, Wesley Chambers No 3 ..... sand
201, " No 4 ..... rig
201, Helm & Mealey ..... rig
202, E O Emerson No 4 400
202, " No 5 ..... rig
201, Booth Bros No 4 ..... rig
203, " No 5 ..... rig bldg
205, J R Kuhn & Co No 2 ..... sand
205, " No 3 ..... rig bldg
205, H B Beatty & Co No 16 ..... sand
205, " No 17 ..... rig bldg
240, Pickett & Farnsworth No 2 800
240, F W Winger No 2 100
240, Cochran Bros No 5 ..... drilling
240, " No 6 ..... rig
240, Bright & Borchert No 3 ..... rig
241, L Kraeer & Co No 18 ..... drilling
241, " No 19 ..... rig
243, Cochran Bros. No. 3 (old) ..... rig
244, Horton, Crary & Co No 2 ..... rig
244, " No 6 ..... drilling
244, " ..... rig
281, (Ford lease) L Kraeer & Co No 5 drilling
281, " " No 6 rig
281, Horton, Crary & Co No 1 ..... drilling
281, " No 2 ..... rig
281, " No 3 ..... rig
284, Watson & Mitchell No 3 ..... sand
281, " No 4 ..... rig
284, Hackett & Shirley No 2 100

New rigs 34
Old rigs 2
Drilling 30
Total 66

Cooper District.

E T Co, Fertig & Henne ..... drilling
Tracey, Jos Clinton 100
401, Anchor Oil Co (shut down) 1280
407, Shank & Stewart No 9 (old) ..... rig
407, " No 12 ..... rig
407, " No 13 ..... rig bldg
408, McCalmont Oil Co No 26 ..... drilling
408, " No 27 ..... rig
407, Cochran Bros ..... rig
369, J M Clapp No 5 ..... rig

New rigs 5
Old rigs and shut down 2
Drilling 3
Total 10

Balltown.

3195, (Crisman) N F Clark No 9 100
3195, " " No 11 ..... rig bldg
3195, (Stone) " No 7 ..... drilling
4821, Balltown Oil Co No 30 ..... drilling
4821, " No 31 ..... rig
4821, Dutch Oil Co No 5 ..... drilling
3197, Clark & Foster ..... drilling
479 , R R Armor No 2 ..... drilling
5215, May, Kelley & Grandin No 38 .. drilling
215, " No 39 .. rig
3198, Haight, Agnew & Co No 5 ..... rig

New rigs 4
Old rigs 0
Drilling 7
Total 11

Miscellaneous.

McKean, 372, Calhoun ..... drilling
Eldred twp, 142, Roy & Jamieson .... rig
Pittsfield, Ford & Co ..... drilling
Johnsonburgh, Ridgway Gas Co (for gas) No 3 ..... drilling
Youngsville, Phillips & Co ..... sand

Kane.

Lot 424, (McKean) Tennent, How & Co ..... rig bldg
Lot 424, " Shirley & Hochstetter ..... rig bldg
Lot 426, " Gilmor, Boyer & Co ..... rig bldg
Warrant 3781, (Elk) Chapman ..... rig bldg
Warrant 3782, (Elk) Johnson & Co. rig bldg
Warrant 3778, (Elk) M Murphy 100
Warrant 3767 (McKean) Craig & Cappeau ..... sand

Grand Valley.

Proper, W W Hague No 3 (old) ..... rig
Milo Emerson, " No 2 ..... rig

New rigs 7
Old rigs 1
Drilling 6
Total 14

Lower Country.

Venango and Other Sections.

Biery, Graham & Co (old) ..... rig
Church Run, (Gray) Anchor Oil Co (fishing ..... sand
McCalmont, S P McCalmont 100
McCormick, Phinney & Co No 3 500
Young, Jones Lee & Co (old) ..... rig
Diamond, Darr & Manning No 9 .... rig bldg
Lee Hicton, Roess Bros No 11 ..... rig bldg
Nuffer, Oil City Fuel Supply Co .... sand
Hogue, " No 1 sand
Benninghoff, " .... 2 rigs
Gates, (4 leases) Fisher Oil Co No 2 .. 750
Tract 47, " No 8 .. 800
Morrison, (Salem) " No 2 .. rig
Harrison, Anchor Oil Co (old) ..... rig
Brown, " ..... rig
Noble, Octave Oil Co No 9 ..... drilling
Stewart, Emery & Stewart ..... rig
Watson, (Kerr's Mills) Emery & Stewart ..... rig
White, Stewart & Co No 97 ..... rig
Pioneer, H R Davis 100
Columbia, Columbia Oil Co No 163 .. rig
A Stewart, M B McManus ..... drilling
Griffith, Purtell (old) ..... rig
McElheney, P W McCray ..... rig
Shaw, J Williamson 300
Moffat, M C Martin 500
Gillespie, Robinson & Co ..... rig
Moody Run, Thomas Smith ..... rig
Rynd Farm, P Glenn ..... sand
Wm Cromer, Reed & Co ..... rig
Barns, Cornwall & Hasson 100
Hill, Taylor & Torrey ..... sand
A Hill, " ..... rig bldg
Webb, " ..... rig
Baum, (Tarkill) W T Baum No 2 .... rig
Stover, Calhoun ..... rig
Fox, Mystic Oil Co ..... rig bldg
Remburg, Hoover & Co ..... drilling
Gailey, Kugler & Gailey No 12 (fishing) ..... sand 850
W & K. Wolf & Kugler No 7 400
" " No 8 ..... rig bldg

Mt. Hope.

Harrington, Galbraith & Shepard No 4 300
Bruner, " No 1 rig
Osmer, Galbraith & Parker ..... rig
Vincent, Dr Galbraith ..... rig
Raymilton, Egbert & Sheasley ..... sand

Bullion.

Crawford, McFadden & Co ..... rig
Hovis, Gilbert & Co 350
Vanderlin, Hollister & Co 400
Baker, Benner & Co ..... sand
Balliott, " ..... drilling
A J Surena, Hoffman & Co ..... rig bldg

Vicinity Emlenton.

Eli Osman, N Mackin (old) ..... rig
D Russell, Baum & Co (old) ..... rig
J W Smith, Sheasley & Co No 5 ..... rig bldg
Cross, S W Phillips ..... sand
Porterfield, A A Hopkins (old) ..... rig
Beals, Pattorf & Young 200
Roya , Wilson Bros (old) ..... rig
Grant, Bennett & Allen No 3 ..... sand
Thompson, Sherwood & Co 600
Leslie Sloan, J M Ankers No 3 600
Lawrence, Griffin ..... drilling
Grant, (Squaw Valley) Venture Oil Co ..... drilling
J Black, Black & Crawford ..... drilling
Johnson, Knight & Shell 500
Cross, Barnes & Co 500
Hayes, A & B Oil Co No 4 ..... rig bldg
Dr C awford, Wm Weaver ..... rig bldg
Grant, J P Crawford & Son ..... drilling
Hunter, Rowley & Co ..... drilling
Leslie, Dutton ..... rig bldg

Rockland.

R Porter, Flynn, Klingler & Co No 5 100
D Porter, Dale Bros No 3 ..... drilling
" " No 4 ..... rig
Hetzler, Dale Bros No 5 ..... rig
Batten, " (shut down) .. sand
Black Heirs, " No 1 ..... sand
" " No 2 ..... rig
J Jolly, " No 4 ..... rig
" " No 5 ..... rig bldg
D Porter, Goodrich & Salisbury No 3 600
D B Hetzler, Duncan & Lowentritt .. rig
Parson, Jamieson & Furniss No 3 ... rig bldg
Wick s, W H H Piper No 3 ..... sand
" " No 4 ..... rig bldg
David Jolly, Fisher Oil Co No 2 ..... drilling
D B Hetzler, Rider & Simpson 800
Cox, Forest Oil Co ..... rig
Jas Jolly, Wentling & Mull ..... rig
Batten, Steelsmith, Duncan & Porter No 2 ..... rig
D Porter, Koch Bros & Riter ..... rig
Batten, Hailey Bros & Boyd ..... rig bldg
Karns, Reid & Moore ..... rig bldg
Jas Jolly, Leckey & Co No 1 ..... sand
John Hetzler, H P Boyd & Co ..... rig
Bell, Fisher Bros ..... rig bldg
Richer, Crawford & Co ..... rig
Lawrence, Stevens & Son ..... drilling
Shippen, Ira C Fuller ..... drilling
Wood & Hill, Wilson & Smith ..... drilling
Rogers & Gates, Heydrich & Co ..... drilling
Hetzler, Heydrich, Hite & Co ..... rig
Johnson, Blakeslee & Heydrich 200
D Johnson, Connors & Fishell ..... rig bldg

New rigs 48
Old rigs 8
Drilling 50
Total 106

Clarion.—Cogley Run.

Gibbs, Ashland Oil Co No 11 (old)... rig
" " No 12 ... 500
" " No 13 ... sand
" " ... sand
Rickenbrode, " No 7 ... rig
" " No 8 ... rig bl g
Fisher, Finnegan & Munroe No 8... rig bldg
" " No 16... sand
" " No 17... sand
Berlin, Patterson, Leedom & Hayes No 11... 300
" " No 12... ig
" " No 13... rig
Shippen, " No 2... 900
Ray, Blackwell & Co (old)... rig
John Deitrich, Lovell & Co No 8... 100
" " No 11... 400
" " No 12 ... rig
" " No 13... rig bldg
Fern, White & Gifford No 7... 500
Fisher, Staley, McDonald & Deitrich (old)... rig
Barber, Barber No 4... 100
John M Deitrich, Holt & Morrison No 2 ... 900
" " No 4 ... 300
Heeter, Heeter Bros No 5... 600
" " No 7... rig bldg
" Wolf & Kugler No 4 ... 600
" Thos Hulings No 3 ... 100
W L Hess, Emlenton Oil Co No 4... 600
" " No 5... 100
" Chauncey Oil Co No 4... rig
" S P Morrison No 3... rig
" Hess Bros No 3... 700
" W L Hess ... 500
Beals, Beals, Hunter & Co No 6... 700
" " No 8... 100
" Brown, Whitehill & Co (old) rig
" Shippen, Woodburn & Co (fishing) ... 900
Edmunds' Heirs, Urquhart & Lavens No 3 (fishing ... 600
" " No 4 ... rig
E Slicker, div 1, Knight & Koch (old) rig
" div 4, HJ Slicker & Co No 2 rig
" div 5, Painter & Co (old). rig
" div 10, Scott, Cox & Baynham... 1000
John Henel, Koch Oil Co No 4... 800
" " No 5... rig
Amos Strutman, Booth, Gifford & White (old)... rig
Hess, L Oil Co No 2... 500
J M Deitrich, Booth, Gifford & White No 2... 900
" " No 3... 600
Hoekman Shaffer & Sheasley... 100
Gillingham, Doyle, Gill & Co No 9 (fishing) ... 900
Black, Doyle, Gill & Co No 5... 100
" Hess & Sackett, No 7 ... 600
" " No 8 ... 5 0
" " No 9 ... 300
Geo Hess, W H Milligan No 1... rig bldg
" " No 3... rig bldg
Sowers, Hite & Walters No 4... 300
" Sheasley & Shaffer No 2 ... sand
H J Smith, Geo LeFlemme & Co No 2 200
" " No 3 rig bl lg
" Swartzfeger & Co No 2... 500
" " No 3... rig bldg
" Shaffer & Sheasley No 2... rig
H J Smith, Shaffer & Sheasley No 3... rig
" McIntyre, Wood & Buzzard No 2... 800
Baum, Berlin & Co No 6... 800
" " No 7... rig bldg
Kinnemuth, Chauncey Oil Co No 9... 900
" " No 10. rig
Buzza, D J Thayer (old) ... rig
Kinnemuth, Chauncey Oil Co No 7... 550
School House Lot, Frampton Oil Co 600
Widow De trich, Wo f & Fertig No 2 800
" " No 3 600
" " No 4 100
" (Scibert lease) Wolf & Fertig No 1 ... 600
John Herrmann, " No 2... 300
John Herrmann, " No 3 rig
" " No 4 rig
" " No 5 rig bldg
Catherman, Weaver & Taylor... rig bldg
J Catherman, Cogley Oil Co No 1... rig
Widow Deitrich, " No 1... rig bldg
C F Stumpner, John M Deitrich & Co (old) ... rig
Long, R J Nicholson (old) ... rig
J Berlin, Bailey & C ... rig bldg
Leslie, Wood, McIntyre & Buzzard rig bldg
Berlin, Berlin & Son No 3 ... 700
" " No 4 ... 600
Herrmann, Young & Roess Bros No 1 400
" Phipps & Martin No 2... 800
" " No 3... rig
Conrad Kinnemuth, Moore & Co... 300
Scott Mimm, Peter Fertig & Stewart (old)... rig
Widow Deitrich, Staley & McDonell No 5 500
" " No 6 rig
" " No 7 rig bldg
" " No 9 100
" J M Deitrich & Co 300
No 2 400
" " No 3 100
" " No 4 100
Scheffler, Darr & Co... 700
" Hall & Co... rig
M Neeley, Calvert & Co ... drilling
A Mong, E E Chambers, Whitehill & Co ... 700
" " ... 300
" Crawford, Wentling & Co... 700
W Mong, Frederick & Hatch... rig bldg
Exley, " ... 200
" Pierce & Robinson ... rig bldg
R Weaver, Short, Chambers & Whitehill ... sand
Fox Estate, Fox & Fink No 26... drilling
Panton, Panton (old) ... rig
McDowell, Amsler Bros No 1... 4 0
Boyd, Elders, Collins & Co ... 400
Scotch Hill, Wolf & Kugler... drilling

New rigs... 35
Old rigs ... 12
Wells drilling... 70

Total ... 117

BUTLER AND ARMSTRONG.

Various Sections.

Kesselman, Bott & Story (old)... rig
J Pontius, Lynch & Co (old)... rig
S Pontius, Hunter & Cummings No 7 400
" " No 8 rig
Muddy Creek, Fisher Oil Co (for gas) drilling
" " " rig
Behm, Lappe ... sand
Logan, McCandless & Co ... rig
Jamieson, Thos Jamieson ... drilling
Thos Roe, Allegheny Oil Co ... 1400
Humes, Reatt, Hunter & Cummings drilling
" Squire Reatt, " rig oldg
Gallagher, " No 3 drilling
Leithold, " No 2 1600
I B Steele, R Jennings No 11... 1000
Mrs Ort, Westerman & Co No 3... 900
" " No 4... 400
John Frederick, " No 2... 900
Tittley, Tittley & Co No 2... 500
" " No 3... 400
Black, Ross, Reynolds & Co (old)... rig
James McBride, Brady & Co... drilling
Thompson, Fisher Oil Co ... sand
Beisenbach, " ... 1600
Smith, " ... 800
Rodgers, Reep & Sutton (old)... rig
McClea, W L Smith & Boyd (old)... rig
Humes, Steighner & Co... drilling
" " ... rig
Middlesex, Gailey Bros ... sand
Miller, Dennison... 1000
McCray, Hunter & Cummings No 3. 700
" " No 4 400
Burr, P Smick ... rig bldg
Clearfield twp, Witt, Phillips Bros. 700
Jas Wright, " No 1 rig bldg
A L Shroder, " ... rig bldg
Story, Hazelwood Oil Co ... rig
Allegany Co (Pine twp) Duncan & Co 1300
Mt Nebo, Frederick & Co... 1600
Aldiner, Kittaniug Oil Co... 600
McCaffrey, Phillips No 1... 500

Martinsburg.

Cannon, Edwards & Co No 4... rig
Stone House, Manifold, Butler & Conley ... 900
Widow Reep, Brawley ... drilling
Wm Reep, Brawley & Co ... rig
Turner, W J McCrea No 5... rig
" " No 6... rig
Black, Devitt & Co ... 650
John Kelley, Kelley & Co... rig bldg
McGuire & Co ... 400
Widow Martin, Campbell & Murphy 650
J Lang, P C L & P Co... 200
Mull gan, McT many & Co ... rig
Wid Witt, McGuire & Co... 300
" Snowalte Bros & Hartman 300
Shultz, Frazier, Doty & Co ... rig bldg
" Gordon Bros, Rigney & Co.. rig bldg
Wm Martin, Showalter Bros & Co.. rig bldg

Thorn Creek.

Noel, H H Stow No 2... 150
Wallace, Shiedemantle (old)... rig
Maharg, Pennell & Sy he ... rig
Hartman, Leidecker & Turner ... rig
Mangell, Shutters & Co... 300
McLaughlin, Clark, Reep & Sutton. rig
Kennedy, Clark & Snee... 300

New rigs... 20
Old rigs ... 6
Drilling ... 39

Total ... 65

Pacific Coast Petroleum.

Recent discoveries of petroleum in California and Washington Territory have attracted renewed attention to this mineral oil. In Southern California, especially, there is considerable inquiry for lands supposed to contain petroleum, and there are several parties now in that section from the East in quest of such property. The Los Angelos *Herald* states that the new pipe line for carrying petroleum from Newhall to San Buenaventura, a distance of 63 miles, is about completed. The first flow of oil from Newhall to the sea will be accomplished in a short time. The capacity of the pipe will enable the company to load a vessel every day.

There seems to be little doubt that this industry will assume an important position in the future, and that crude and refined petroleum will become a staple product on the Pacific coast. A prominent oil expert in Pennsylvania states that the flow of oil from the principal wells in that state is steadily diminishing, and that as new wells are struck this process is accelerated. It is believed by this authority that within a comparatively brief period the supply from this source will become greatly reduced. In view of this probability the importance of petroleum discoveries on this coast is apparent.—*San Francisco Grocer and Country Merchant.*

WHEELING, W. Va., expects to make use of a portion of the natural gas which is so abundant in Washington county. The distance from Cannonsburg to Wheeling is about 35 miles.

TWENTY wells have been drilled in the counties of Hancock, Wood, Putnam and Allen, in the State of Ohio, and five more are under way. Twelve of these are said to be good gas wells. Five are producing both gas and oil and three are absolutely dry.

THE Standard Oil Co. has a scheme under way to pipe natural gas for heating and illuminating Buffalo. The plan is to lay a large trunk line from the Venango district to Corry, and from there to Buffalo. At Corry, there will be placed the pumping machinery necessary to force the gas to its destination. The machinery will be constructed on the principle of the Worthington Duplex pumps used by the National Transit Company for pumping oil, modified in such a manner as to adapt them to their new uses.

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	November, 1885. Wells.	Prod'n.	Dry.	October, 1885. Wells.	Prod'n.	Dry.
Scio	5	31	0	6	34	0
Alma	8	35	0	12	63	0
Wirt	14	72	2	10	64	0
Bolivar	6	35	0	8	57	0
Clarksville	17	84	2	24	195	0
Genesee	1	6	0	2	14	0
Miscellaneous	0	0	0	0	0	0
Total	51	263	4	62	427	0
Total October	62	427	0			
Difference	11	164	4			

BRADFORD FIELD.

Division of Field.	November, 1885. Wells.	Prod'n.	Dry.	October, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	27	199	2	21	173	0
Kendall Creek	3	21	0	6	42	0
Foster Brook	14	107	0	9	72	0
Knapp's Creek	4	25	0	0	0	0
Four Mile	5	34	1	5	40	0
Indian & Meeks Creeks.	7	43	0	6	51	0
Cole Creek	6	70	0	11	168	2
Kinzua	2	13	0	4	78	0
Total	68	512	3	62	624	2
Total October	62	624	2			
Difference	6	112	1			

WARREN AND FOREST.

District.	Noveember, 1885. Wells.	Prod n.	Dry.	October, 1885. Wells.	Prod'n.	Dry.
Glade	18	165	4	11	351	2
Clarendon	23	128	1	33	207	1
Tiona	37	225	2	35	234	0
Cooper	7	156	0	5	26	2
Balltown	9	225	1	9	174	4
Miscellaneous	8	25	3	7	9	5
Total	102	924	11	100	1001	14
Total October	100	1001	14			
Difference	2	77	3			

LOWER COUNTRY.

District.	November, 1885. Wells.	Prod'n.	Dry.	October, 1885. Wells.	Prod'n.	Dry.
Venango	50	521	13	47	580	6
Clarion	84	2015	6	95	2543	14
Butler and Armstrong	33	348	16	31	438	8
Total	167	2884	35	173	3561	28
Total October	173	3561	28			
Difference	6	677	7			

GRAND SUMMARY.

District.	November, 1885. Wells.	Prod'n.	Dry.	October, 1885. Wells.	Prod'n.	Dry.
Allegany	51	263	4	62	427	0
Bradford	68	512	3	62	624	2
Warren and Forest	102	924	11	100	1001	14
Lower Field	167	2884	35	173	3561	28
Total	388	4583	53	397	5613	44
Total October	397	5613	44			
Difference	9	1030	9			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	November 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	October 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	4	4	7	15	4	5	6	15
Alma	7	12	17	36	7	12	9	28
Wirt	10	1	17	28	12	3	13	28
Bolivar	7	3	8	18	3	2	7	12
Genesee	2	10	5	17	3	11	2	16
Clarksville	13	8	14	35	17	2	19	38
Miscellaneous	0	0	2	2	1	0	1	2
Total	43	38	70	151	47	35	57	139
Total Oct. 31	47	35	57	139				
Difference	4	3	13	12				

BRADFORD FIELD.

Division of Field.	November 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	October 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches	15	15	23	53	18	12	28	58
Kendall Creek	4	1	6	11	5	1	7	13
Knapp's Creek	6	1	12	19	5	0	6	11
Foster Brook	9	2	11	22	9	1	9	19
Four Mile	7	2	2	11	5	2	6	13
Indian Creek	5	4	8	17	3	4	10	17
Cole Creek	3	3	6	12	6	3	6	15
Kinzua	4	0	3	7	1	0	3	4
Miscellaneous	0	0	5	5	0	0	5	5
Total	53	28	76	157	52	23	80	155
Total Oct. 31	51	23	80	155				
Difference	1	5	4	2				

WARREN AND FOREST.

Division of Field.	November 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	October 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	13	4	8	25	9	6	15	30
Clarendon	21	4	30	55	26	3	24	53
Tiona	34	2	30	66	39	2	25	66
Cooper	5	2	3	10	4	0	7	11
Balltown	4	0	7	11	5	0	8	13
Miscellaneous	7	1	6	14	5	0	8	13
Total	84	13	84	181	88	11	87	186
Total Oct. 31	88	11	87	186				
Difference	4	2	3	5				

LOWER COUNTRY.

Division of Field.	November 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	October 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Venango	48	8	50	106	56	4	44	104
Clarion	35	12	70	117	70	13	85	168
Butler & Armstrong	20	6	39	65	17	7	41	65
Total	103	26	159	288	143	24	170	337
Total Oct. 31	143	24	170	337				
Difference	40	2	11	49				

GRAND SUMMARY.

Field.	November 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	October 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	43	38	70	151	47	35	57	139
Bradford	53	28	76	157	52	23	80	155
Warren and Forest	84	13	84	181	88	11	87	186
Lower Country	103	26	159	288	143	24	170	337
Total Nov. 30	283	105	389	777	330	93	394	817
Total Oct. 31	330	93	394	817				
Difference	47	12	5	40				

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virginia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11,894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441
August	73,858	23,82
September	68,110	2,270
October	63,619	2,053
November	60,928	2,031

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal Continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE.	Nov. 21, 1885. Barrels.	Oct. 24, 1885. Barrels.
Seven Continental Ports	1,010,147	1,147,642
London	281,905	242,307
Trieste	16,413	------
Total Stocks afloat and ashore	1,308,465	1,389,949
Decrease in stocks since October 24	81,484	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1884. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS NOVEMBER 21, 1885.

PORTS.	Stocks week ending Nov'ber 21.		Stocks afloat week ending Nov'ber 21.		Loading. Week ending Nov'ber 21		Grand total stocks afloat and loading.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	162,754	177,230	19,409	74,875	19,000	29,800	201,163	281,905	171,012	248,739	244,636	241,078
Trieste	24,102	16,413	16,737	------	--------	--------	4[illegible],839	16,413	45,417	22,526	61,173	22,685
Bremen	607,052	345,095	56,663	73,655	28,000	-------	691,715	418,750	209,642	2[illegible]2,871	423,970	335,846
Hamburg	164,375	75,492	47,243	64,999	22,500	24,500	234,118	164,991	567,729	495,439	578,068	600,789
Antwerp	161,631	40,499	79,948	96,870	70,000	53,500	311,579	190,869	453,193	326,697	456,855	393,158
Rotterdam	42,580	32,487	34,011	28,909	4,500	18,500	81,091	79,896	78,860	184,692	103,552	221,142
Amsterdam	29,176	14,584	25,989	19,958	8,200	17,300	63,365	51,842	98,204	8[illegible],580	199,964	101,367
Stettin	69,068	61,208	7,772	6,323	--------	9,900	76,840	77,431	182,866	213,102	151,445	210,306
Danzig	26,580	14,284	-------	9,584	--------	2,500	26,580	26,368	55,518	41,296	37,033	36,828
Total	1,100,462	583,649	251,626	300,298	133,200	126,200	1,485,288	1,010,147	1,616,012	1,582,677	1,860,887	1,899,436

	1882.	1883.	1884.	1885.
Total stocks Continental Ports	1,327,893	1,553,809	1,100,462	583,649
Total afloat, " "	262,543	125,537	251,626	300,298
Total loading	156,300	714,50	133,200	126,200
Total	1,746,736	1,793,846	1,485,288	1,010,147
Afloat and loading for direct Continental Ports	--------	--------	----	11,500
" " " Baltic Sea, exclusive Stett n and Danzig	--------	--------	18,200	--------
" " " Total Continental Ports	1,746,736	1,793,846	1,503,488	1,021,647
" " " Total London	326,909	491,673	201.163	281,905
" " " English harbors, exclusive London	85,900	164,100	104,800	33,400
Grand total	2,159,545	2,449,619	1,809,451	1,336,952

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, OCTOBER, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., NOV. 10, 1885.

CUSTOMS DISTRICTS.	MINER'L, CRUDE		NAPHTHAS.		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.
Boston and Charlestown, Mass	-------	------	-------	------	242,004	28,104	16,481	4,271	------	------	258,485	32,375
New York, N. Y	4,758,436	371,917	1,485,032	119,773	26,371,198	2,417,147	1,087,905	219,282	288,960	17,128	33,991,531	3,145,247
Philadelphia, Pa	3,745,706	279,511	725,780	49,778	10,403,263	900,528	25,256	3,105	105,000	8,602	15,005,005	1,241,524
Baltimore, Md	--------	------	--------	-------	681,075	56,908	--------	-------	-------	------	681,075	56,908
San Francisco, Cal	--------	-------	--------	-------	--------	-------	--------	-------	-------	------	--------	--------
All other districts	---- ---	-------	--------	-------	--------	-------	--------	-------	-------	------	--------	--------
Total for October, 1885	8,504,142	651,428	2,210,812	169,551	37,697,540	3,402,687	1,129,642	226,658	393,960	25,730	49,936,096	4,476,054
Total for October, 1884	9,456,712	691,005	1,509,415	129,113	47,113,957	4,084,491	875,369	176,202	973,476	49,335	59,928,929	5,130,146
Total for 10 months ending Oct. 31, 1885	69,319,751	5,130,130	13,254,327	1,018,672	376,653,531	33,005,049	10,573,665	2,145,034	5,121,060	299,539	475,022,334	41,598,424
Total for 10 months ending Oct. 31, 1884	61,934,854	4,840,922	9,987,469	833,478	356,826,704	32,551,207	9,533,963	1,947,158	4,696,734	294,260	442,979,724	40,467,025

CRUDE QUOTATIONS FOR NOVEMBER, 1885.

Day of Month and week.		BRADFORD.				OIL CITY.				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
M	2	111⅝	111⅞	110⅝	111¼	111⅝	111⅞	110⅝	111	111⅝	111⅞	110⅝	111¼	111⅝	111¾	110⅝	111
T	3	111⅜	111½	110⅞	111½	111⅛	111⅜	111	111⅝					111⅛	111⅜	111	111⅝
W	4	111⅜	111½	109¼	109⅜	111½	111⅜	109⅜	109⅜	111⅝	111⅝	109⅜	109⅜	111⅜	111⅜	109¼	109⅜
T	5	108⅞	109⅜	107⅝	108¾	108¾	109⅜	107½	108⅝	108⅞	109¾	107⅜	108¼	108⅞	109¾	107½	108½
F	6	108¾	109⅛	107⅛	107⅞	109	109⅛	107¼	107⅞	109	109⅛	107	107⅞	108⅞	109	107⅛	107⅞
S	7	107¾	108⅝	107¼	108¼	107¾	108¾	107¼	108½	107½	108⅝	107¼	108½	107⅝	108⅝	107¾	108½
M	9	108⅛	108⅛	106¾	106¾	108⅛	108⅛	106¾	106¾	108⅜	108⅜	106¾	106¾	108¼	108¼	106¾	106¾
T	10	107¼	108	107	108	107½	108⅛	107⅛	108	107¼	108⅛	106⅞	108⅛	107¼	108⅛	107	108⅛
W	11	107¾	108	106⅞	107⅜	108	108	107½	107½	108	108⅛	107	107⅜	107⅞	108	107	107⅜
T	12	107¼	108¼	107	107⅛	107	108¼	106⅞	107⅛	107¼	108⅜	107⅛	107⅛	107⅜	108¼	107⅛	107⅛
F	13	106¾	107⅝	106¾	106⅞	106¾	107⅝	106¾	107	107	107¾	106⅞	107	106¾	107⅝	106¾	107
S	14	107⅛	107¼	106¾	107	107	107½	107	107⅛	107⅛	107⅝	106⅞	107	107⅛	107¼	107	107⅛
M	16	107¼	107½	107⅛	107¼	107¼	107⅝	107	107⅜	107¼	107¾	107⅛	107¼	107¼	107⅛	107⅛	107¼
T	17	107½	110⅛	107½	110⅜	107⅝	110⅜	107⅜	110⅛	107⅝	110¾	107⅝	110⅛	107⅜	110⅜	107¾	110¼
W	18	110¼	110¾	105⅞	107¼	110¼	111	106⅜	107¼	110½	111	106¼	107⅝	110½	110⅞	106	107¼
T	19	107½	108¼	107⅛	107½	107¾	108¼	107⅛	107⅝	107⅜	108⅜	107⅛	107⅜	107⅝	108⅜	107¼	107⅝
F	20	107⅜	107½	103⅞	104¾	107½	107½	103⅞	104¾	107½	107⅝	104	104⅝	107½	107½	104	104⅝
S	21	105¼	105¼	99⅜	99½	105¾	105¾	99¼	99½	105	105¼	99¼	99½	105	105⅛	99⅜	99⅜
M	23	98½	99¼	90¾	91⅞	99	99¼	90¼	91⅞	99½	100	89⅞	92	98½	99⅛	90¼	91⅜
T	24	92	96	90	95½	92	96	89¼	95¼	92	96	90	95½	91½	96	88¼	95½
W	25	96¼	97¾	93⅜	95¼	96	97½	93⅜	95⅛	96½	98	93¼	95¼	96	97⅝	93½	95⅜
T	26																
F	27	95⅜	95⅜	93¼	93⅜	95¼	95⅜	93⅛	93⅜	95½	95½	93	93⅜	95⅜	95⅝	93⅛	93⅜
S	28	93¼	94⅜	93¼	93½	93½	94⅜	93¼	93⅜	93⅛	94⅜	93⅛	93¼	93½	94¼	93¼	93⅜
M	30	93¼	93⅝	88	88⅛	93⅜	93⅜	88	88⅝	93½	93⅝	88	88⅞	93¼	93½	88	88½

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	NOVEMBER, 1885.	OCTOBER, 1885.
National Transit Co	1,546,509 79	1,657,290.94
Tidewater	186,777.99	198,359.86
Octave Oil Co	3,406.00	3,378.29
Charley Run	------	109.50
Shaffer Run	660.50	430.00
Franklin (limited)	7,367.51	9,191.97
Pittsburgh Pipe Line	21,410.26	24,403.51
Total	1,766,132.05	1,893,164.07
Daily average	58,871.07	61,069.81

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	NOVEMBER, 1885.	OCTOBER, 1885.
National Transit Co	1,637,288.63	1,822,374.00
Tidewater	182,750.35	188 616 19
Octave Oil Co	3,104.00	3,578.52
Charley Run	------	1,494.98
Shaffer Run	2,662.30	1,175.00
Franklin (limited)	9 529.08	15,867.92
Pittsburgh Pipe Line	14,510.13	17 043.69
Total	1,849,844.49	2,050,150.30
Daily average shipments	61,661.48	66,133.88

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, November	2,790.41
Daily excess of shipments over runs, October	5,064 07
Daily excess of shipments over runs, September	13,138.62
Daily excess of shipments over runs, August	11,099.01
Daily excess of shipments over runs, July	5,959.01
Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	NOVEMBER 30, 1885.	OCTOBER 31, 1885.
National Transit Co	32,381,121.11	32,483,596.40
Tidewater	1,352,635.70	1,351,483.90
Octave Oil Co	2,807,00	2,955.47
Charley Run	315.00	3 5 00
Shaffer Run	22,201.22	27.293.52
Franklin (limited)	28,378.14	30,539.71
Pittsburgh Pipe Line	6,900.13	7,359.82
Total	33,794,358.30	33,903,543 82

Stocks decreased November	109,185.52
Stocks decreased October	184,593 91
Stocks decreased September	408,862.12
Stocks decreased August	390,529 99
Stocks decreased July	215,947.71
Stocks decreased June	356,849 49
Stocks decreased May	565.252 48
Stocks decreased April	42,525 72
Stocks decreased March	248,900.89
Stocks decreased February, 1885	376,306.01
Stocks decreased January, 1885	179,780 27
Stocks decreased December, 1884	984,300.33
Stocks decreased November, 1884	266,552 87
Stocks decreased October, 1884	616,976.88
Stocks decreased September, 1884	345,281 52
Stocks increased August, 1884	97,092.86
Stocks increased July, 1884	323,063.12
Stocks increased June, 1884	191,320.03
Stocks increased May, 1884	322,981 73
Stocks increased April, 1884	1,945,919 83
Stocks increased March, 1884	164.711.39
Stocks increased February, 1884	206,984.61
Stocks increased January, 1884	119,365.56

	RECEIPTS.	DELIVERIES.
Daily average November	58,871	61,661
Daily average October	61,070	66,134
Daily average September	58,067	71,206
Daily average August	55,001	66,100
Daily average July	57,293	63,252
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,831
Daily average February,	54,976	67,667
Daily average January, 1885	53,290	58,188
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76.391
Daily average August	66,996	64,402
Daily average July	66,702	56,170
Daily average June	67,350	60,907
Daily average May	66.688	56,448
Daily average April	65 794	54,773
Daily average March	64,590	60,445
Daily average February	64,573	59,420
Daily average January, 1884	58,178	54,404

Crude Market for November.

The gratifying advance in the price of crude certificates that was recorded during August, September and October was lost during November. Opening at 111⅝ the market appeared fairly strong, but after the first few days a tendency downward was manifest. which carried the figures down to 107¼ the first week, and to 106¾ the second. The third week witnessed a slight spurt from 107¼ to 110⅛, but on the 20th occurred the first premonitions of a serious break, when oil sold down to 103⅞, and on the following day went below the dollar mark, to remain there for the rest of the month. Closing at 99⅜ to ½ on the 21st, it opened very weak the following Monday morning at 98½ to 99c. It broke from this point to 90¼, rallied to 96 on the 24th went back to 90, ranging between 93⅛ and 97¾ until the 30th, when it sagged off from 93⅜ to 88c., and the month closed with quotations at 88⅛ to 88⅜.

Thus the highest point of the month, 111⅞, was reached on the first, and the lowest, 88c., on the last day of the month. This break of 23⅞ cents was the result of a very successful raid by the bear element in the exchanges. As will be seen by the figures published elsewhere. the statistical position of crude remains as strong as ever. The panic was excited in the first instance by the scouts' verification of the fact that there was a well in the woods, southwest of Kane, actually producing oil at the rate of 70 barrels a day. The terrors of a new field in prospective were too much for the bulls, and when on top of the Kane well came the news that an old well at Kinzua village had been wakened by deeper drilling and was flowing all the way from one to three thousand barrels of oil a day, the market went down under the burden of oil that was offered for sale. The speculative trade in the oil region was probably never better prepared for a break of this kind than at the time it occurred. The New York Exchange was credited with having engineered the advance that carried the market up to 110, and was reported heavily long of oil, while the brokers of the "Western" exchanges, as the Bradford, Oil City and Pittsburgh petroleum marts have been collectively christened by the metropolitan speculators, were mostly engaged in bearing the slippery product of northwestern Pennsylvania. When the break came it was plain enough that the oil region banks were not very heavily filled up with certificates, while numerous "lay downs" in the Consolidated Exchange bore witness to the fact that the fall crop of wool was largely clipped from lambs outside and remote from those who congregated in the Western exchanges. But the drop in price falls most heavily in the end on the producer, on the owners of small production in the older fields, and on recent purchasers of producing territory at enhanced and extravsgant prices.

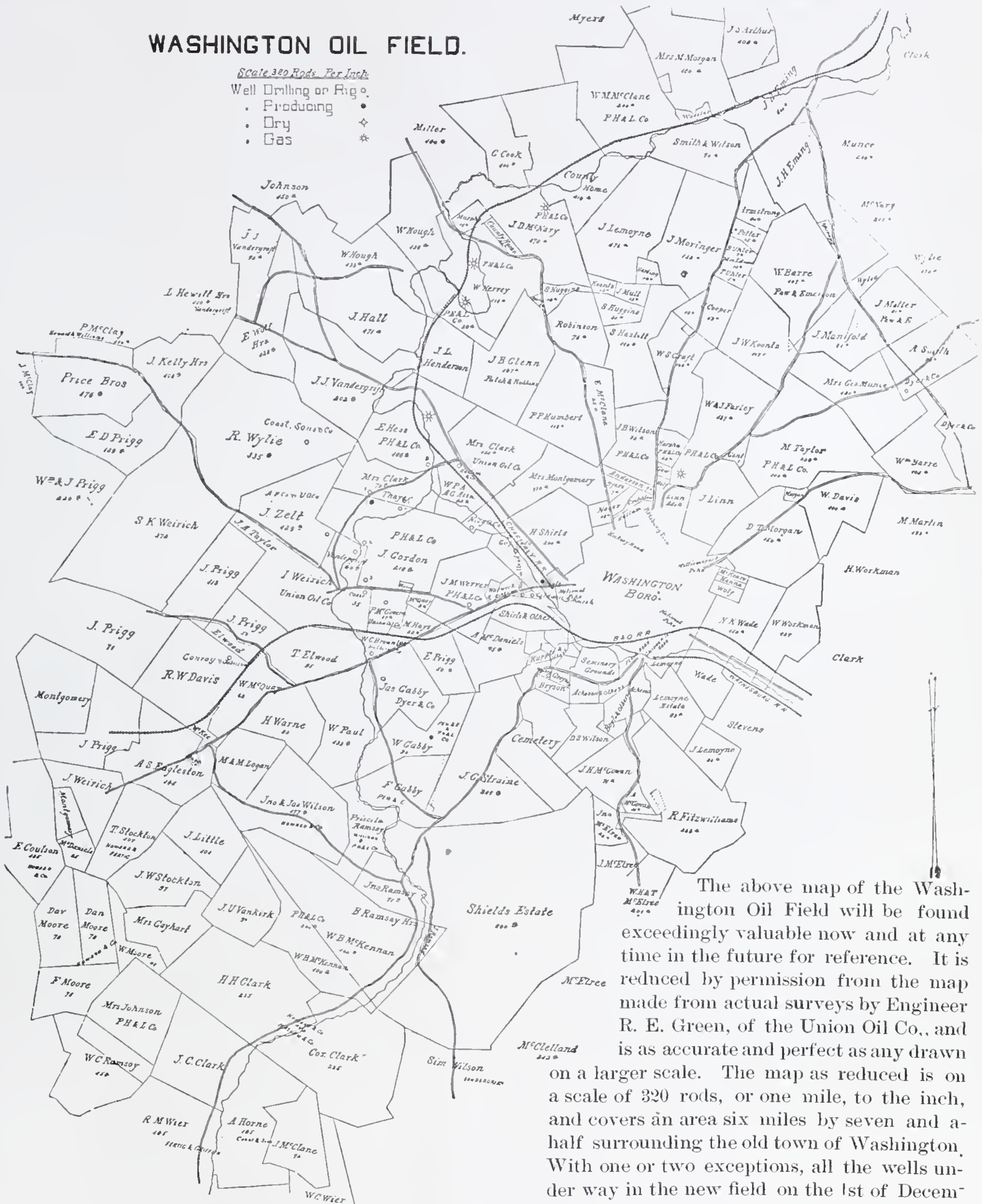
With only one or two wells near the sand in Washington county, and the very slow progress made by the drill in that section. the future of the oil market, for some time to come, will swing on the developments at Kane.

The range of prices for November was 23⅞ cents as compared with 12½ cents in October, 4¼ cents in September, 7¼ cents in August, 13⅛ cents in July, 18 cents in June, 4¾ cents in May, 4⅜ cents in April and 8 cents in March. The average price for the month on the floor of the Bradford Exchange was 104⅜ against 105½ in October, 100¾ in September, 100⅜ in August, 96⅜ in July, 82¼ in June. 79⅝ in May and 78⅞ in April. The average price for November, one year ago, was 72½ cents.

THE CLEARANCES.

	November. Barrels.	October. Barrels.
Bradford Oil Exchange	74,480,000	66,246,000
Oil City "	140,490,000	131,730,000
New York Consolidated Exchange	366,768,000	422,586,000
Pittsburgh Petroleum Exchange	84,882,000	90,058,000
Philadelphia Oil Exchange	27,882,000	31,345,000
Total	694,502,000	741,965,000

WASHINGTON OIL FIELD.



The above map of the Washington Oil Field will be found exceedingly valuable now and at any time in the future for reference. It is reduced by permission from the map made from actual surveys by Engineer R. E. Green, of the Union Oil Co., and is as accurate and perfect as any drawn on a larger scale. The map as reduced is on a scale of 320 rods, or one mile, to the inch, and covers an area six miles by seven and a-half surrounding the old town of Washington. With one or two exceptions, all the wells under way in the new field on the 1st of December will be found in their proper places on the map. The famous Gantz well, which was the first in Washington county that produced any oil, is located on the Gantz Mill property, close to the western edge of Washington Borough. The Gordon well, the property of the People's Heat and Light Co., on the J. Gordon farm, is a little over one mile northwest of the Gantz. This is the well on which Washington bases its solid claims to be known as an oil producing field. The Gabby (Pew & Emerson) well is on the W. Gabby farm, one and one-quarter miles southwest of the Gantz. The old Gantz well is now being cleaned out in the Gordon sand. The next well due is the Dyer, Willets & Co., on the A. Smith farm, two and a half miles northeast of the Gantz.

THE Ironton, Ohio, well, which was drilled to a depth of 2,050 feet last Spring, is to be deepened 450 feet. The well is now said to be 1,400 feet below the bottom of the Macksburg salt sand.

The West Virginia Natural Gas Company, whose heaviest stockholders live in Pittsburgh, have erected a derrick and begun drilling for gas near Taylorstown, in Washington county, on the line of the Wheeling division of the Baltimore & Ohio road, on Buffalo Creek. Two or three other derricks will be put up at once and drilling begun in the same neighborhood. Drilling in the waters of Middle Wheeling Creek, near West Alexandria, is progressing very gradually, as the limestone and blue shale formations are penetrated only with much trouble and very slowly. Gas indications are very encouraging in the last-named locality.

THE Philadelphia Company of Pittsburgh, declared its first dividend of 1 per cent. on its capital of $5,000,000, November 10th. None of its stock is for sale.

AVERAGE DAILY RUNS BY DISTRICTS, INCLUDING MACKSBURG—1882–85.

	Bradford	Allegany	Cherry Grove	Cooper	Balltown	Wardwell	Baldridge	Cogley	Macksburg	All Other Fields	Total
1882.											
January	55,006	7,222	----	----	----	----	----	----	----	11,541	73,769
February	63,313	9,512	----	----	----	----	----	----	----	10,722	83,547
March	58,078	14,760	----	----	----	----	----	----	----	10,894	83,732
April	53,108	17,622	----	----	----	----	----	----	----	10,395	81,125
May	55,955	19,522	218	----	----	----	----	----	----	11,262	86,957
June	56,016	22,765	3,037	----	----	----	---	----	----	13,968	95,786
July	52,456	23,884	8,655	----	----	----	----	----	----	19,311	104,306
August	49,711	20,814	24,315	----	----	----	----	----	----	10,985	105,825
Septem	46·585	16,387	23,002	----	----	----	----	----	----	10,567	96,541
October	42,107	19,964	9,363	120	----	----	----	----	----	14,286	85,840
Novem	41,404	16,993	4,886	294	----	----	----	----	----	10,012	74,589
Decem	39,580	14,020	3,180	558	87	----	----	----	----	14,993	72,419
1883.											
January	36,487	14,106	3,313	1,632	334	----	----	----	----	8,893	66,125
February	38,481	13,154	2,954	1,475	332	----	----	----	----	8,812	65,208
March	37,754	12,619	2,706	1,737	368	----	----	----	----	9,220	64,404
April	38,810	13,742	2,604	3,802	840	----	----	----	----	9,409	69,207
May	39,039	13,793	2207	3,829	952	----	----	----	----	9,625	69,445
June	38,614	13,499	2,215	4,199	1,961	----	----	----	----	9,955	70,443
July	36,489	12,381	1,891	3,467	1,944	----	----	----	----	9 456	65,628
August	37,165	12,743	1,935	3,166	3,078	----	----	----	----	10,790	68,877
Septem	35,894	12,358	1,612	3,200	3,723	----	----	----	----	9 423	66,210
October	35,654	12,757	1,312	3,314	4 298	----	----	----	----	10,314	67,649
Novem	34,516	12,332	1,000	3,251	3,807	----	----	----	----	10,285	65,281
Decem	32,650	11,752	1,061	2,876	3,766	----	----	----	----	10,725	62,830
1884.											
January	31,020	11,018	767	2,908	2,808	----	----	----	86	9,657	58,264
February	33,987	12,025	968	3,743	2,816	----	----	----	51	11,034	64,624
March	33,049	11,777	1.001	4,631	2,813	----	----	----	86	11,319	64,676
April	34,370	12,261	1,039	4,229	2,399	475	844	----	113	10,176	65,906
May	34,946	12,193	968	3.468	2,260	1,015	1,061	----	136	10,777	66,824
June	35,701	11,672	845	2,985	2,250	2,042	969	----	211	10,886	67,561
July	34,718	11,114	523	2,476	2,471	4,277	889	----	249	10,234	66,951
August	33,782	10,384	665	2,046	2,189	6,483	843	----	258	10,6 4	67,254
Septem	33,449	9,989	653	2,155	2,115	4,056	2,644	----	334	10,891	66,286
October	31,500	8,802	446	1,811	1,781	2,201	6,034	----	350	10,489	63,414
Novem	29,552	8,642	423	1,302	1,401	1,346	9,493	----	431	9,592	62,182
Decem	30,632	8,193	407	1,246	1,189	979	8,730	----	315	10,367	62,058
1885.											
January	27,254	7,442	360	1.214	810	977	6,199	----	384	9,034	53,674
February	27,480	7,696	327	987	910	663	7,349	----	637	9,564	55,613
March	26,833	7,342	373	867	954	605	7,239	----	873	9,785	54,971
April	29,557	7,738	299	1,114	775	527	9,333	----	1,189	11,019	61,551
May	28,443	7,467	343	1,053	902	722	7,488	127	1,557	10,879	58,981
June	30,662	7,680	439	1,000	1,044	764	5,905	609	2,233	11,983	62,319
July	30,657	7,363	467	906	1,032	647	3,856	1 220	2,441	10,283	59,872
August	29,291	7,102	363	923	930	----	2,268	2,115	2,382	12,731	58 105
Septem	30,151	6,647	312	918	944	----	2,021	3,244	2,270	13,830	60,337
October	30,828	7,081	428	777	925	----	1,898	4,979	2,053	14,194	63,123
Novem	29,117	6,667	303	707	1,030	----	1,469	5,416	2,031	14,162	60,902

SUMMARY of the Statement of the Tidewater Pipe Company, Limited, for November, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of November		1,351,483.90
Quantity of crude petroleum at close of Nov	1,476,502.23	
Less sediment and surplus	123,866.53	
		1,352,935.70
Receipts during November		186,777.99
Deliveries during November—to refiners	182,750.35	
" " " to other parties		182,750.35
Outstanding certificates, accepted orders, etc.		960,000.00
Credit balances		392,635.70
Total liabilities November 30, 1885		1,352,635.70

OCTOBER SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of October		1,344,298.49
Quantity of crude petroleum at close of Oct.	1,476,422 38	
Less sediment and surplus	124,938 48	
		1,351,483.90
Receipts during October		198,359.86
Deliveries during October—to refiners	188,616.19	
" " " to other parties		188,616.19
Outstanding certificates, accepted orders, etc.		805,000 00
Credit balances		466,403.90
Total liabilities, October 31, 1885		1,351,483.90

A LITTLE more than a year ago, the Cleveland Rolling-Mill Company, at Cleveland, began sinking a well for gas on a lot near its wire mills. On December 1st, when the drill was down 3,162 feet, a strong vein of gas was struck. It has been decided to drill the well deeper, in the hope of securing a better flow. Other wells will be started at once. The discovery is of immense importance to the iron interests of Cleveland, and local capitalists have already organized a company to transport gas through a pipe-line from the oil fields.

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

MONTH.	1879	1880	1881	1882	1883	1884	1885
January	-----	110 1-5	95	83	92¾	111⅓	70¾
February	-----	103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅛	80⅜
April	78⅜	76⅝	84⅛	78¼	92⅝	94	78⅞
May	73½	80¼	81½	70	99⅜	85½	79⅜
June	68⅜	100¼	81	54½	117¼	68¾	82¼
July	69⅞	101¼	76⅛	57⅝	108	63½	96⅜
August	67¼	90¾	78⅔	58⅔	108⅔	81 1-5	100⅜
September	69¼	91½	92¼	71¼	112½	78	100¾
October	88⅛	96¾	92¾	93⅝	111⅛	71	105½
November	105⅜	91¼	82½	114¾	114 4-5	72½	104⅞
December	113¼	92⅜	83¾	95¼	114½	74⅜	

SUMMARY of the Statements of the National Transit Company for November and October, 1885:

	NOVEMBER. Barrels.	OCTOBER. Barrels.
Receipts from all sources	1,546,509.79	1,657,290.94
Deliveries	1,637,288.63	1,822,374 00
Gross stocks end of month	35,489,129.86	35,928,132.04
Sediment and surplus	3,108,008.75	3,444,535.64
Total liabilities end of month	32,381,121.11	32,483,596 40
Outstanding acceptances	28,191,569.88	28,270,229.17
Credit balances	4,189,551.23	4,213,307.23

THE pipe line runs credit the Cogley Run district, up to Nov. 30, with a production of 538,522 barrels.

THE Franklin, Pa., Gas Company supplies 1,230 stoves and 40 boilers.

The Refined Market.

The refined trade is somewhat demoralized by the recent drop in crude, and prices have sagged off a full half cent. Some of the European ports are nearly destitute of oil, and the foreign buyer evidently thinks the opportunity will soon present itself for stocking up with American oil at still lower figures. The total continental supply November 14 was 1,392,246 barrels, as compared with 1,996,246 barrels at the same date in 1884.

Refined in cases has been in good demand at reduced quotations of from 9 to 10⅛ cents, according to brand. Several large shipments have been made to China and Japan on old contracts, so that the total clearances for the month amount to 831,951 cases. This is an increase of 252,575 cases over November last year. The total shipments of refined in cases to China, Japan, India and other Eastern ports for the first eleven months of the year amount to 9,324,548 cases. Last year shipments for the same time were 8,593,146 cases.

The domestic trade is fair, with the following quotations for Standard White oil: 110 test, 8 3-4 to 9c.; 120 test, 9 1-4 to 9 1-2c.; 130 test, 9 1-2 to 9 3-4c.; N. Y. State test, 9 1-2c.; 150 test 10 3-4c., and 300 test 12 to 13c. Naphtha is strong at 7 3-4c. for prime city.

Mr. George H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East up to the first of December, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA.—Shanghai, previously reported	1,779,706	681,695
" November	171,785	
Hong Kong, previously reported	741,093	708,027
" " November	58,170	
JAPAN—Yokohoma, previously reported	881,452	670,700
" " November		
Hiogo	800,903	452,153
Nagasaki	171,192	121,529
INDIA—Calcutta, previously reported	1,123,067	1,652,883
" November	62,500	
Bombay, previously reported	925,854	1,046,436
" November	49,876	
Kurrachee	96 263	51,504
Point de Galle	18,428	66,720
Madras	47,382	42,260
Rangoon and Colombo	159,491	304,743
JAVA—Batavia	759,109	479,066
Anjier	787,156	1,506,952
SINGAPORE	329,943	194,653
Penang and Singapore		28,900
Penang	169,975	229,522
Other Eastern ports	391,203	355,403
Total December 1	9,324,548	8,593,146
Total November 1	8,493,597	8,013,770
November clearances	831,951	579,376
Inere se as compared with Nov. last year	252,575	

REFINED QUOTATIONS FOR NOV'R.

	New York.	Philadelphia.	Baltimore.	London and Liverpool.	Bremen.	Antwer
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1						
2	8⅝	8⅜	8⅜	7⅛	7.55	19⅝
3	8⅝	8⅜	8⅜	7⅛	7.55	19⅝
4	8⅝	8⅜	8⅜	7⅛	7.55	19⅝
5	8⅝	8⅜	8⅜	7¼	7.55	19¾
6	8⅝	8⅜	8⅜	7¼	7.55	19¾
7	8⅝	8⅜	8⅜	7¼	7.55	19⅔
8						
9	8½	8⅛	8¼	7¼	7.55	19⅝
10	8½	8⅛	8¼	7¼	7.55	19⅝
11	8½	8⅛	8¼	7¼	7.60	19⅝
12	8½	8⅛	8¼	7¼	7.60	19⅝
13	8½	8⅛	8¼	7¼	7.55	19½
14	8½	8⅛	8¼	7¼	7.55	19½
15						
16	8½	8¼	8¼	6⅞	7.55	19¾
17	8⅜	8⅜	8⅜	7⅛	7.60	20
18	8⅜	8⅜	8⅜	7⅛	7·60	20
19	8⅜	8⅜	8⅜	7⅛	7.65	19⅞
20	8⅜	8⅜	8⅜	7⅛	7.65	19⅞
21	8⅜	8¼	8¼	7¼	7.50	20¼
22						
23	8¼	8⅛	8⅛	7¼	7 45	20¼
24	8⅛	7⅞	7⅞	7⅛	7.40	20⅛
25	8¼	8⅛	8⅛	7	7.40	20
26				7⅛	7.35	19¾
27	8¼	8⅛	8⅛	7⅛	7.35	19¾
28	8⅛	8⅛	8⅛	7	7.35	19½
29						
30	8⅛	8	8	7	7 30	19¾

Legality of Speculative Contracts.

[The case of Blackmar vs. Scofield.]

At the November term of the McKean county Court, an important precedent was established concerning the legality of speculative contracts.

On the 8th of December, 1882, Mr. H. L. Blackmarr and Mr. C. W. Scofield entered into a contract, of which the following is a copy.

BRADFORD, PA., Dec. 8th, 1882.

No.--- ----

Sold to C. W. Scofield, for account of H. L. Blackmarr, twenty-five thousand (25,000) barrels of crude petroleum at one dollar and twenty-five cents, ($1.25) per barrel of forty-two (42) gallons, in bulk, to be delivered at buyer's option at any time from the eighth day of December, 1882, to the sixth day of February, 1883, in accepted and—United Pipe Line receipts, pipage unpaid, and to be paid for in cash as delivered, with no notice from buyer to seller. Should no notice be given delivery shall be made on the sixth day of February, 1883. Place of delivery, Bradford, Pa. Brokerage....cents per barrel by sellers. No margins. Through.....

Accepted by C. W. Scofield.

This contract is written on a blank form, such as has been in use in the Oil Exchange for many years, and a duplicate was given to Mr. Scofield. February 6, 1883, was, by the terms of the contract, the limit of the time for settlement, and Mr. Blackmarr received the following notification:

BRADFORD, PA., Feb. 6, 1883.

To H. L. Blackmarr:

DEAR SIR:—You are hereby notified that a certain pretended contract alleged to have been made by and between yourself and C. W. Scofield about December 8, 1882, for a pretended sale of 25,000 barrels of oil at $1.25 is illegal and void, will in no wise be carried out by me in any respect, and you are further notified that any attempt to establish a difference by a sale of the oil either publicly or privately will be the subject of an action for damages. Yours Truly,

C. W. SCOFIELD.

By Berry, Elliott & Jack, Attorneys.

Upon receipt of the above, Mr. Blackmarr tendered certificates for 25,000 barrels of oil, freshened to date, to Mr. Berry, he being the only representative of Mr. Scofield that could be found in the city. Mr. Berry refused to accept the oil, and it was sold by President C. L. Wheeler, of the Bradford Oil Exchange, at public sale, for $1.04 1-2 to C. P. Stevenson, who gave his certified check for $26,125. According to the terms of the contract this left a deficiency of $5,125 due Mr. Blackmarr. Mr. Scofield refused to pay the difference, on the grounds that he did not consider the contract legal, and consequently not binding. Mr. Blackmarr took legal proceedings to obtain the established difference, and the case was crowded over or postponed a number of times until Saturday, November 14th, when it was decided by the jury that Mr. Blackmarr should be allowed his claim of $5,125. The Court charged the jury that if Mr. Blackmarr had the 25,000 barrels of oil, or was able to procure the oil before the expiration of the contract, that the defendant should be held for the difference. Mr. Scofield's attorneys were Messrs. Berry, Elliott & Jack, and Brown & Roberts, of Bradford, and Jerome Fisher, of Jamestown. Mr. Blackmarr's were Messrs. B. D. Hamlin of Smethport, and F. L. Blackmarr, of Meadville.

THE Exempt Firemen's Association of Bradford has elected Governor Robert E. Pattison an honorary member and forwarded him a gold badge. This will entitle His Excellency to the freedom of the city when he visits the metropolis of the oil regions.

CHARLES L. WHEELER.

THE subject of the present sketch, who has been intimately connected with the oil business in all its phases for twenty-five years, is a New-Englander by birth, having first seen the light of day on the 4th of September, 1829, in the staid, old Puritan village of Malden, Massachusetts. He attended the public schools of Boston until 12 years of age, when he became an errand boy in a grocery store, and made a humble beginning for the successful career that has since attended him.

On the 14th of November, 1860, his experience of the ups and downs of an oil man's life begins, when he went to Parkersburg, West Virginia, as purchasing agent for the New York Kerosene Oil Company. He came to Oil Creek December 5th of the same year, making his headquarters at Titusville, and remained there, in the business of buying crude oil, until the company closed its business in February, 1869. Mr. Wheeler was an active participant in the life along the "creek," and acquired a large acquaintance among the producers and shippers in those palmy days when an oil certificate was unknown, a large surplus stock an unheard of feature, and crude oil ranged from $1.50 to $14.00 per barrel at the wells. Before the advent of a pipe line and the inception of an oil exchange, the business possessed many novel and interesting features that are entirely wanting at the present time. The refiners were represented in the oil region by energetic agents, who traversed the country purchasiug oil in any quantity from one up to many thousand barrels, directly of the producer. The buyer generully paid for the oil in cash, and was followed in a day or two by his assistant, who engaged the teams that hauled the oil to the nearest shipping point on the creek or river. In his business of buying oil, Mr. Wheeler was always the custodian of greater or less sums of money. The nearest express office was at Union City, where he went every week to receive his supply of cash, for the following week's purchases. Despite the fact that he was known to constantly have in his care large sums of money, and the general lawlessness that is associated with the early history of petroleum, Mr. Wheeler was never molested in any way:

As illustrative of the manner in which business was done in those days, and as evidence of the good faith that prevailed among oil men, the following incident is worthy of note. Soon after the Noble well was struck on Oil Creek, Mr. Wheeler met Orange Noble on the streets of Titusville and asked him what he would take for 30,000 barrels of oil. Mr. Noble replied, "$1.50 per barrel." Mr. Wheeler said, "I will take it." No farther record was made of this transaciion, but before the oil was delivered crude had advanced to $7.50 per barrel, but every barrel was delivered and paid for as regularly as if the contract had been drawn up by an expert legal authority and recorded in the courts.

After the New York Kerosene Oil Company settled up its business, Mr. Wheeler engaged with Henry Harley, and remained in his employ, at New York and Pittsburgh, until the fall of 1873. Returning to the oil regions in January, 1874, he located at Petrolia as buyer for Joseph Bushnell. Here, in the same year, he was elected first president of the Petrolia oil exchange, and re-elected to the same official position the ensuing year. In January, 1876, he engaged with H. L. Taylor & Co., now the Union Oil Co., with which corporation, still one of the very largest in the producing field, he has been connected ever since. He first came to Bradford in September, 1875, which was then a backwoods village of 400 or 500 inhabitants, with Tom Melvin as merchant of the general country store, Frank Davis as druggist and telegraph operator, and Wilbur DeGolier, watchmaker and man in charge of the turn table arrangement that served as the post office. In May, 1876, he moved his family to this place, of which he has ever been an honored and highly respected citizen.

Mr. Wheeler was prominent in the organization of the

Bradford oil exchange. Elected its first president in 1878, he has held the office continuously, and is now serving his eighth year. He has been largely instrumental in organizing and perfecting the institution which is known as the Conference of Oil Exchanges, and was made its president in August, 1883. This position he likewise holds at the present time.

As Division Superintendent of the Union Oil Co. for the Bradford field, Mr. Wheeler has charge of 600 oil wells, and the overseeing of a small army of foremen, pumpers, contractors, ann general laborers. Besides looking after such an extensive business, he finds time to take a lively interest in tne affairs of his adopted city and keep acurately posted on the current questions of the day.

Mr. Wheeler is a representative man of the oil region, and a courteous and refined Christian gentleman. Of dignified presence and earnest manner, he is a model executive officer and a thorough-going man of business. Concise and systematic in his habits, paying careful attention to details, and wisely economical in the division of his time, he fills every position that he undertakes with credit to himself and satisfaction to his associates. Of broad and enlightened views upon educational matters, he has taken an active interest in perfecting the public schools of Bradford. As President of the Oil Exchange, by his impartial rulings and rigid attention to his duty he commands the respect and good will of all the members. In the city fire departmsnt he has always taken a prominent part, and labored hard to increase the efficiency of that excellent organization. His services in this direction have been highly appreciated, as evidenced by his election to the presidency of the local board several times, and by the fact that he is now President of the Exempt Firemen's Association, and President of the Firemen's Association of the State.

"Elia" and Charles Lamb.

A unique genius, that of Charles Lamb. Just like nothing that ever appeared before them, or has since appeared, are the quaint and delightful "Essays of Elia," a new edition of which has recently been issued by Alden, "The Literary Revolution" publisher of New York. Turn to any of your encyclopedias and they will tell you that Charles Lamb was one of the most charming essayists that the English language has ever known, and also that his "Essays of Elia" are the choicest of his works. They are not merely the first work of their class, but, like "Pilgrim's Progress" and "Robinson Crusoe," they constitute a class by themselves. The volume is certainly one of the most delightful of the books described in Mr. Alden's 148-page illustrated catalogue, which he offers to send for 4 cents, or the 16-page catalogue which is sent free. Address, John B. Alden, Publisher, New York City. Brennan & Davis, agents in this city.

THE lands about Kane marked Emma Hobbs on the maps include subdivisions 68, 140, 145, 148, 151, 174, 260, 267, 302, 303, 352, 375, 382, 389 and 422 of Hamilton township, McKean county, are now for sale by Isaac Hobbs Merrill, a grandson of Mrs. Emma Hobbs, and one of the owners of the estate. He is the authorized agent, and may be seen at Bangor, Maine, where he is engaged in the banking business.

To meet the demands of the oil region press, it is suggested that Mr. J. A. Cadwallader prepare a lecture on the peculiarities of the Kinzua country and deliver it before the oil exchanges of the country.

The Reduction in Stocks.

Since September, 1884, the stocks in the custody of the pipe lines have been undergoing a steady drain. The amount of oil taken ont of the regions has constantly exceeded the amount received from the wells. The stocks in the tanks of all the pipe lines reached their maximum on the 31st of August, 1884, when the figures showed the total gross stocks of 41,975,126 barrels, while the net stocks were 39,0s6,0004 barrels. The decrease in the stocks has been steady from that date, as will be seen by the following table:

	Barrels.
Decrease September, '84	345,282
" October	616,977
" November	266,553
" December	984,300
" January, '85	179,780
" February	376,306
" March	248,901
" April	42,526
" May	565,252
" June	356,849
" July	215,948
" August	390,530
" September	408,862
" October	184,394
" November	109,185
Total	5,291,645
Net Stocks August 31, '84	39,086,004.01
" November 30, '85	33,794,358.30
Decrease in 15 months	5,291,645.71

The gross stocks do not show quite so great a decline, but the difference is accounted for by the change in the sediment and surplus account:

Gross Stocks Aug. 31, '84	41,975,126
" Nov. 30, '85	37,026,233
Decrease	4,948,893

During the fifteen months from September, '84, to November, '85, inclusive, the net stocks in the custody of the different pipe lines have been diminished 5,291,645 barrels.

THE Supreme Court at Columbus, Ohio, has decided the case of Scofield, Shurmer & Teagle against the Lake Shore & Michigan Southern Railway, in favor of the plaintiffs. They are independent oil refiners of Cleveland, and sought to enjoin the railroad company from granting the Standard Oil Company lower rates for carrying oil from Cleveland west than it granted them. They claimed that lower rates were given the Standard Oil Company by giving them a rebate on the regular tariff.

THE Central Pacific Railroad Company has recently introduced crude petroleum inio nearly all its steamers, including the Oakland ferry boats. The oil is obtained in the State, some of it at Ventura, and some from wells not long struck near Livermore on the line of the Western Pacific Branch. The method of application is practically identical with the Russian—namely, by a steam jet.

It is reported that Captain M. Murphy, the mystery man, has a flock of carrier pigeons which he will use in sending messages from his Kane wells to Warren. He possibly got the idea from Joe Murphy in the "Kerry Gow."

THE premium on Lower and Middle Field oil has been reduced from 12½ to 10 cents per barrel.

PETROLEUM EXPORTS.

THE EXPORTS of Petroleum (refined, crude and naphtha) from all United States ports from January 1 to November 28, for the years 1884 and 1885, were as follows:

	1885.	1884.
From Boston ..... galls	8,026,681	6,645,825
Philadelphia	139,245,870	105,887,626
Baltimore	10,520,087	13,781,275
Total ..... galls	157,792,638	123,314,726
From New York	337,262,316	352,138,224
Total Exports from United States	495,054,954	475,452,950

The appended table, from the *Shipping List*, gives the total Exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1 to December 2, for the years 1884 and 1885:

REFINED.

	1885.		1884.
GT. BRITAIN—London	18,760,075	.....	14,815,482
Liverpool	9,518,857	.....	7,361,172
Bristol	4,792,031	.....	3,176,762
Ireland	5,354,035	.....	5,224,324
Other Ports	7,917,462	.....	6,404,237
		46,342,460	.....
GERMANY—Bremen	19,261,009	.....	27,944,468
Hamburg	29,903,013	.....	30,763,675
Konigsburg and Stettin	9,109,214	.....	6,768,171
Dantzie	1,934,828	.....	937,366
Other Ports	1,021,577	.....	1,372,183
		61,229,671	.....
FRANCE—Marseil'es	.....	.....	.....
Havre	.....	.....	.....
		.....	.....
NORWAY AND SWEDEN	5,722,216	5,722,216	5,451,902
RUSSIA AND FINLAND	694,289	694,289	188,822
DENMARK—Tuborg	957,102	.....	.....
Aarhuus	283,214	.....	.....
Aalborg	209,553	.....	.....
Copenhagen	1,826,470	.....	.....
Elsinore	1,842,815	.....	.....
Kastrup	405,563	.....	.....
Other Ports	348,998	.....	.....
		5,873,715	7,589,883
BELGIUM	24,800,081	24,800,081	30,831,795
HOLLAND—Amsterdam	9,308,739	.....	.....
Rotterdam	9,860,493	.....	.....
Harlingen	119,298	.....	.....
Flushing	534,242	.....	.....
		19,822,772	14,992,274
Spain	5,096	5,096	350,960
Portugal and Azores	916,484	916,485	1,133,434
Gibraltar and Malta	947,640	947,640	3,227,780
Italy	2,211,399	2,211,399	2,064,470
Austria—Trieste, &e	2,010,654	2,010,654	5,239,992
Greeee	612,290	612,290	1,095,010
Turkey in Europe	1,962,124	1,962,124	3,307,180
Turkey in Asia	2,070,060	2,070,060	2,780,475
Arabia	760,000	760,000	.....
INDIA AND SIAM—Bombay	9,322,760	.....	.....
Calcutta	11,326,150	.....	.....
Point de Galle and Colombo	802,760	.....	.....
Bangkok	804,130	.....	.....
Kurraehee	962,630	.....	.....
Madras	473,820	.....	.....
		23,732,250	27,496,000
CHINA & JAPAN—Shanghae	16,694,980	.....	.....
Hong Kong	7,626,650	.....	.....
Yokohama	7,960,000	.....	.....
Saigon	746,690	.....	.....
Tientsin	258,000	.....	.....
Nagasaki	920,000	.....	.....
Hiogo	335,370	.....	.....
		34,543,690	22,158,430
EAST INDIES—Anjier	7,667,970	.....	.....
Batavia	7,591,000	.....	.....
Iloilo	.....	.....	.....
Manila	201,000	.....	.....
Padang	390,000	.....	.....
Penang	1,457,750	.....	.....
Rangoon	1,292,410	.....	.....
Singapore	2,349,720	.....	.....
Banjermassin	200,000	.....	.....
Maeassar	271,500	.....	.....
		21,421,440	27,398,580
AFRICA—Alexandria, &e., E	2,987,660	.....	3,483,440
Canary Islands	202,304	.....	167,379
Other Ports	2,901,251	.....	4,296,800
		6,091,215	.....
Australia	4,030,588	4,030,588	2,457,096
New Zealand	1,356,472	1,356,472	858,451
Sandwieh Islands	239,500	239,500	204,080

REFINED—CONTINUED.

	1885.		1884.
SOUTH AMERICA—Brazil	5,990,607	.....	5,291,761
Argentine Con. & Uruguay	3,127,710	.....	5,818,250
Chili and Peru	1,350,110	.....	805,014
United States of Colombia	454,334	.....	419,914
Venezuela	537,247	.....	632,982
Other Ports	46,030	.....	66,101
		11,506,038	.....
Central Ameriea	290,935	290,935	303,494
Mexieo	1,069,906	1,069,906	1,122,040
British North American Colonies	1,369,305	1,369,305	1,280,144
Cuba	365,661	365,661	392,696
British W. Indies & Brit. Guiana	1,668,708	1,668,708	1,443,881
Other West Indies	1,251,530	1,251,530	1,126,542
Total ..... galls	284,918,189	284,918,189	290,247,892

CRUDE.

	1885.		1884.
FRANCE—Havre	8,528,751	.....	8,079,005
Marseilles	2,528,158	.....	4,378,892
Bordeaux	1,669,682	.....	2,220,997
Dunkirk	6,200,635	.....	6,031,541
Cette	4,774,871	.....	.....
Rouen	815,636	.....	.....
Les Sables o' Ollone	544,330	.....	.....
St. Loubes	.....	.....	.....
Blaye	937,323	.....	.....
Dieppe	509,039	.....	.....
		26,508,425	9,417,789
Antwerp	.....	.....	.....
Bremen	3,353,547	3,353,547	425,850
Austria—Fiume	423,815	423,815	6,070,624
Norway and Sweden	.....	.....	.....
		.....	.....
SPAIN—Alieante	2,219,667	.....	.....
Pasages	843,135	.....	.....
Bilboa	2,103,296	.....	.....
Bareelona	787,084	.....	.....
Carthagena	42,786	.....	.....
Corunna	1,452,524	.....	.....
Malaga	556,990	.....	.....
Santander	675,890	.....	.....
Seville	955,015	.....	.....
Tarragona	462,035	.....	.....
Valeneia	818,363	.....	.....
Palma	203,340	.....	.....
		11,120,125	13,644,797
Cuba	3,044,418	3,044,418	2,630,042
Total ..... galls	44,450,330	44,450,330	52,899,537

NAPHTHA.

	1885.	Total.	1884.
Great Britain	4,111,395	.....	4,101,151
Franee	1,808,740	.....	3,187,825
Germany	623,286	.....	521,780
Other Europe	1,268,656	.....	983,201
Various Ports	81,720	.....	196,838
Total ..... galls	7,893,797	.....	8,990,795

RESIDUUM.

	1885.	Total.	1884.
To all Ports ..... galls	3,628,850	.....	3,816,795

Total Refined since January 1, aetual shipments, galls., 288,766,798. Crude equivalent ..... galls. 385,022,397
Total Crude since January 1, aetual shipments 44,786,351

Grand Total Crude and Crude equivalent ..... galls. 429,808,748
Same time, 1884 ..... 447'525,458

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, December 1, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude	Naphtha	Residuum	Total
New York	25	27	10	0	0	62
Philadelphia	18	12	9	1	1	41
Baltimore	2	0	0	0	1	3
Boston	0	1	0	0	0	1
Total Dec. 1	45	40	19	1	2	107

THE KANE OIL FIELD.

PERSONAL OF ITS PIONEERS. ROCK STRUCTURE OF THE COUNTRY AS READ BY THE RECORDS OF TEST WELLS DRILLED IN THE PAST. ELEVATIONS OF THE WELLS ABOVE TIDE-WATER AND THE DIP OF THE SANDS.

OCCASIONALLY the oil world is startled by a new strike in some out-of-the-way locality, crude values vanish suddenly, and there is a mad rush for territory in the new field which is ushered in upon the troubled scenes of life in Oildom. In the hasty scramble for crude wealth which follows how few stop to trace out the means by which the discovery was made. In the majority of cases the men who have opened up new fields have done it under the most discouraging circumstances and at great self-sacrifice. The wives of the operators who made the Bullion Field known to the world sold their jewelry in order that the drill might travel on its downward course. The genuine American pluck and rugged self-denial which characterized the work of the late O. P. Taylor places the name of the discoverer of the Allegany field among the heroes of the region. While the busy throng is gathering in the undrilled lands about the new strike and the speculative forces are regaining their equilibrium, a thought will be given to the man whose inventive mind conceived the theory of an oil field in the vicinity of Kane.

Mr. F. J. Clemenger, to whom the credit falls of being the father of the new field, was born in the beautiful city of Toronto about 43 years ago. He came to the oil country in 1865, and was with the motley crowd which made up the teeming life of Pit Hole. Twenty years ago "Clem," as he is familiarly called by his friends, came to the region, and has since been a familiar figure with the pioneers of every new field from Allegany to Washington. Like many others he has been borne gaily onward on the crest of the tidal wave of success, and has gazed philosophically into many a conductor-hole which served as a grave for buried hopes and lost greenbacks. No matter how the fates have dealt with the man who pointed the sure way to the Kane field, he has ever been buoyant and hopeful, and nerved by his late success is already building rigs in new sections on the same line which gave the oil trade the Craig & Cappeau well. About the time Marcus Hulings, that pioneer in many fields, struck oil in the rugged defiles through which the Kinzua Creek threads its way, Clemenger saw that the well was twelve miles southwest of the Cole Creek front near Bordell City, and on a 45° line with it. Prolonging the theoretical line he observed that it passed near Kane, and that a point a short distance south of Kane was as far southwest of the Hulings No. 1, as that well was remote from the gushers on the Cole Creek frontier. This was the simple theory upon which he leased lands and drilled the first well near the middle point of warrant 3788, now known as the Roy & Archer No. 1. Some time in 1879 Cleminger went on a leasing tour in the vicinity of Kane. He leased 1,000 acres of warrant 3788 from William James, and altogether his leases covered about 4,000 acres. Joseph Duke, of Bradford, took an interest in the first well. The rig was built and they were ready to drill about January 1st, 1880. The Roy & Archer wells were drilled, and gave indications of crude wealth, as will be seen by their records further on, but they did not afford oil in paying quantities. Clemenger left the section for a time and busied himself in other localities, but in his meanderings about the region he never lost sight of Kane.

The Roy & Archer failure on warrant 3788, and that of the Emery Oil Co. on warrant 3777, had indications which strengthened his faith in the possibilities of the elevated region. He drifted back to Kane in January 1885, and leased about 2,200 acres of land preparatory to drilling another well. James McDade shared in the enthusiasm which impelled the wildcatter to further endeavor, and gave him a lease of 300 acres without royalty if he would drill the well on his property. With the lands secured Clemenger knew not where to get the funds with which to sink the hole. His resources had been dissipated by the drill in sinking numerous wild-cat wells, and the wildcatter's credit with hardware men and contractors in oil prospecting is always at a low ebb. Besides, the great companies had abandoned the country as barren of oil after the completion of the Emery well on warrant 3777. The conservative heads of the business who are now paying a big bonus for lands which still partake of a wild-cat nature, could not be induced to invest a dollar in drilling the well which gives promise of making hundreds of thousands for the young men who staked their money on the venture.

Early last summer when the Mt. Nebo well was exorcising the trade, Mr. Clemenger made a trip to that locality to take a few leases, and while there met Joe. P. Cappeau, who was scouting or reporting on the market-disturbing influences of the well. Clemenger broached his Elk county scheme to Cappeau and tried to induce him to purchase the leases and drill a well. While scouting for the Forest Oil Co., Cappeau had looked up the Elk county test well, was thoroughly posted on the oil indications of the region, and favorably impressed with its possibilities. Having made some money on the rise in oil he thought that "Clem's" venture would be a good gamble, and with his partner, Joe Craig, purchased the lease for a fair consideration and agreed to drill the well. Clemenger met Cappeau at the Seventh Avenue Hotel about July 3d, when the transfer was made.

THE NEW FIRM.

It has often been observed that a man need not be old in the oil business before he steps into prominence. This fact is aptly illustrated by the new firm of Craig & Cappeau. Joe P. Cappeau is an Oil City boy, and he is not yet twenty-five years of age. He began the career of an oil scout in the summer of 1880, when he entered the employ of the Forest Oil Co. His first efforts were directed toward the VanScoy well at Kinzua village, which was mystified during the summer and fall of that year. "Little Joe," as he is familiarly called by his many friends, is the youngest and one of the brightest of the scouts. He is an accute observer of the movements about mystery wells and quick to use information which he or his comrades have made sure of. Above all, he has confidence in his own judgment, and the nerve to back it with his last cent.

Joe Craig is also a young man, and perhaps several years the senior of Mr. Cappeau. He was formerly with D. P. Reighard, the well known refiner of Pittsburgh, and later was the representative of J. C. Fisher & Co. on the floor of the Pittsburgh Oil Exchange. He is credited with engineering the rise in oil which occurred with the downfall of Thorn Creek. He has the air of a man with an abundance of self-reliance and one not easily disturbed by trifles. His record for the year of 1885 is one of the most brilliant that will be recorded in the annals of oil.

The well is located on warrant 3767, about 1,200 rods, or nearly four miles, southwest of Kane. It is 225 rods from the east line of the warrant, and 76 rods from the

south line. Work was begun by the new firm in July, and the rig loomed above its wild surroundings as early as August 1st, and on the 3d of that month the drill began to vibrate. John A. Stoup who drilled the Kane Gas Co.'s No. 2 well, was the contractor, and took one tour. James Jones was the other driller, and P. Mack and Charles Wilson dressed the tools. The sand was struck at 8 o'clock on the morning of November 11th. Besides the drillers, Messrs. Cappeau and Clemenger were present, and a young man delegated by an outsider to watch the well. After striking the sand they pulled out and put on a new bit and drilled twenty minutes. When the tools were drawn the well had filled up eight hundred feet with oil. The bailer was run after the tools were removed and it was found that the well had filled up 1,000 feet. After lowering the bailer a second time Mr. Cappeau put in two plugs which had been brought up from Butler for the occasion. A ball of oakum and sediment were thrown in on the first plug and then the second one was placed in position. In spite of these obstructions the well filled up and flowed in three and a-half hours, and continued to flow over the derrick every two hours after that until 700 feet of water was run into the well and the casing-head put on the casing. The oil continued to seep out through the crevices in the casing-head and trickle away through a subterranean passage in the rocks from the conductor-hole. About noon on the 18th of November "Little Joe" invited the band of scouts with whom he has been daily associated for years to his room in the Thompson House at Kane, and told them what he knew about the new strike. By request of the scouts, one of their number not interested in the well has made the daily gauge which has been given to the public. Jerry Hefferman was chosen to do the work, and when he has been absent Stow, Tennent, or some other of the field men has put the well to the test of the gauge-pole The 250-barrel tank was completed November 19, and the stop-cocks were turned at 4 p. m. on that day. At 8 o'clock on the morning of the 20th the gauge showed 31 inches in the bottom of the tank for the first 16 hours, or about 85 barrels. The production for the 24 hours ending Nov. 22 was 85, for the 23d 84 barrels, and for the 24th and 25th 75 barrels each day. Saturday, Dec. 5th, the production was 62 barrels. Wednesday noon, Dec. 9th, they began to drill out the plugs. Drilling continued on Thursday and Friday, and at this writidg scouts are in doubt as to whether the plugs are drilled out or resting on the bottom of the well. The production of the well increased by the agitation of the drill. It was 65 barrels on the 9th of Dec., 76 on the 10th, 85 on the 11th, 93 on the 12th and — barrels on the 14th.

THE VENTURES OF THE PAST.

From various sources and at no little trouble records of wells drilled in the past have been obtained covering a stretch of country extending from the Kinzua Creek on the northeast to the Hoodoo well on the southwest, a distance of twenty-five miles, i. e., about twelve miles either way from the Craig & Cappeau well. Starting at the northeast, as many records as we have been able to obtain and have space to publish are given:

THE KINZUA WELL.

On the 15th of July, 1878, Marcus Hulings struck oil in the "Old Owl Well," situated on the south bank of Kinzua Creek and on the northern part of warrant 3084. This strike, a long ways in advance of developments, opened up what has since been called the Kinzua, and sometimes the Riterville pool. It was the indicator which pointed Clemenger clearly on the way to the Kane field. The well was at first reported light, but its average production for the first year was 30 barrels per day. Mr. Seth Hulings furnished the following record:

Well mouth above Ocean, in feet				1625
1. Conductor	50	to	50	1575
2. Red Rock	100	to	150	1475
3. ?	600	to	750	875
4. Red Rock	50	to	800	825
5. ?	175	to	975	650
6. Shells and sand	100	to	1075	550
7. ?	200	to	1275	350
8. Sand, slate and shells	270	to	1545	80
9. Bradford oil sand	68	to	1613	12

According to the above record the top of the Bradford sand at this well is 12 feet above ocean level.

Hulings well No. 3, mouth of Kinzua Creek, and in the western part of warrant 3076; completed in March, 1879, has the following record:

The mouth of the well is 1715 feet above tide. A pebble sand 15 feet in thickness was found at 1110 feet. The second sand was struck at 1375 feet, and the regular third sand at 1665 feet. A show of oil is reported at 1695 feet, and the drill tapped salt water at 1700. The well was abandoned.

Mr. C. L. Wheeler, Superintendent of the Union Oil Co.'s operations in the Bradford field, considers their property in the Kinzua pool the finest in the country. A short time since sixty of their wells in this section, old and new, had a daily average of 11 barrels per well and some of them were seven years old. An ocean of salt water exists on three sides of this pool, and the Union Oil Co. do not drill their wells more than 28 feet into the sand for fear of running into salt water.

THE P. C. L. & P. CO.'S GROUP.

Mr. W. F. Crane, the obliging Superintendent of the P. C. L. & P. Co. of Bradford, furnished the following records of eight wells drilled by his company on the Patterson lands, about six miles northeast of Kane. Nos. 1, 2, 3, 6 and 7 are located on warrant 3085. No. 4 is in the southeastern corner of warrant 3089, and Nos. 5 and 8 are found on warrant 3086. This tract, known as the Patterson lands, was leased from Gen. Kane, and comprises an area of 4,500 acres, situated on the north side of Mead Run and between this stream and the northern boundary line of Hamlin township. It is immediately west of that part of the rich Kinzua pool, which is owned and operated by the Union Oil Co. The following is the record of the wells:

No.	Drive Pipe	Casing	Top Sand	Depth Sand	Depth of Well	Finished.
1	63	256	1783	100	1951	January 1, 1879.
2	57	470	1628	35	1691	August 15, 1879.
3	51	237	1738	62	----	May 12, 1879.
4	184	390	2117	28	2145	February 26, 1880.
5	31	370	2032	35	2090	August 20, 1880.
6	50	325	----	32	1921	February 9, 1881.
7	36	397	1570	15	1657	June 24, 1881.
8	61	295	1835	--	1880	January 21, 1882.

The No. 1, which was completed January 1st, 1879, was the scene of a spirited lease war between Gen. Kane and the P., C. L. & P. Co. A block-house was built, and Gen

Kane with a small army of Swedes was encamped on the disputed territory. A showing of oil was found in this well and salt water was encountered in the bottom of the sand. The well was shot twice with 30-quart shots and finally abandoned as a failure. Some oil was bailed from the well.

No. 2, situated on the center of warrant 3085, was finished August 15, 1879, had 35 feet of superior sand, and was pumped for a time. It produced about a quarter of an inch per day, and after putting 52 inches into a 250-barrel tank, was abandoned.

The rock formation at No. 3, where the regular sand should have been found, was a mixture of shells and slate. It was positively dry, and failed to disclose gas, oil or salt water.

No. 4, located in the southeastern corner of warrant 3089, drilled into the sand February 26, 1880, showed volumes of salt water but no oil.

No. 5, at the middle point of the south line of warrant 3086, was drilled 23 feet below the bottom of the sand. Like No. 4, its yield was confined to salt water.

No. 6, located on the northeastern corner of warrant 3085, had its 32 feet of sand rock shaken up with 40 quarts of glycerine. It had some gas, showed oil, and had salt water in the sand.

No. 7, in the northwestern part of warrant 3085, afforded a little gas, but was barren of oil. It was finished Jan. 24, 1881, and had 15 feet of sand.

No. 8, the last one drilled before the tract was abandoned, had a good sand, an abundance of salt water, but no oil. The well was completed January 21, 1882.

The P., C. L. & P. Co. drilled a dry hole near the mouth of Glade Run, along the line between warrants 3122 and 3123, and about five miles northeast of Kane. The mouth of the well is 1,718 feet above ocean level. The following record was furnished by L. C. Blakeslee to Mr. Ashburner:

	Feet.
Cased at	370
Heavy sand shell at	1017
Sand at	1745
Slate at	1760
Sand at	1768
Slate at	1780
Salt water found in sand at	1745 and 1768

The sand at this well, according to the above data, is 50 feet below tide. The top of the sand at the Craig & Cappeau well, seven miles to the southwest, is 464 feet below ocean level. Unless the sand dips 60 feet to the mile in this distance, the P., C. L. & P. Co.'s well on 3122 was never drilled deep enough.

The P., C. L. & P. Co. drilled a well on the eastern part of warrant 3092. There was some oil in the hole, and when the drive-pipe and casing were pulled the latter was found to be partially filled with paraffine. The contractors, Ash & O'Dell, never reported the depth of the well at the office. No 5, about a mile northeast of this venture, on the Patterson lease, was a dismal failure, and settles all doubts about the well.

Sergeant gas wells.

Supt. W. C. Henry, of the fuel department of the National Transit Co., kindly furnished some data concerning the gas wells about six miles east of Kane, from which the gas supply is drawn for the city of Bradford and most of the National Transit Co.'s pump-stations in the Northern Field. They have secured through purchase and by drilling ten wells north of the McKean and Elk county line on warrants 2675, 2729, 2676, 2723, 2684, 2695 and 2685. Seven of the ten wells produce gas, and the other three are either salt water wells or failures for gas or oil. At some of these wells a showing of oil is found in a brown sand having a thickness of from 20 to 24 feet, which Mr. Henry has termed the oil sand to distinguish it from the gas sand which is found about 90 feet below. Where this gas sand has been drilled through it has been demonstrated to have a thickness of from five to seven feet. The No. 5 well, on the southeastern corner of warrant 2684, has the following record:

	Feet.
Cased at	296
First sand	1280
Show of gas at	1340
More gas at	1420
Stray sand	1830
Third sand	1840
Stray sand above gas sand	1925
Gas sand	1934
Total depth of well	1943

The thickness of the gas sand was about five feet, and the total depth of the well 1,943 feet. There was no showing of oil at this well.

No. 6 well is situated on the eastern part of warrant 2676. The subjoined figures make up a part of its record:

	Feet.
Well cased	412
Third or oil sand at	1679
Thickness oil sand	26
Gas sand reached at	1776
Thickness gas sand	6

To satisfy Mr. Shultz, of Wilcox, No. 6 well was torpedoed in the oil sand, and after standing a month had filled up 500 feet with oil and water, and one-half of this was oil.

The National Transit Co.'s No. 7, known as the Frank Andrews well, is located in the northeastern corner of warrant 2675, and is a large gas well. The oil sand was struck at a depth of 1,762 feet and the gas sand at 1,862.

The Kane gas co.'s wells.

The Kane Gas Co.'s No. 1, in the northwest corner of the village, was drilled in May, 1884. Capt. C. P. Byron, who then held a quarter interest in the gas company, furnished the following record of the well:

	Feet.
Mouth of well above ocean level	2008
Conductor	12
Well cased at	304
Struck salt water	2150
Gas sand	2488
Bottom of well	2524

Capt. Byron states that only three or four feet of the sand which furnishes the gas was good sand. The salt water which came in at 2150 feet made about 8 barrels per day.

The Kane Gas Co.'s No. 2 well is located southwest of the village of Kane, and south of the P. & E. R. R. From its nearness to the Craig & Cappeau well and other wells now drilling northeast of that well, its record is of considerable importance. This well was drilled for gas in the summer of 1885. Mr. John A. Stoup, the contractor, furnished the following record: Mouth of well above ocean level, 1894 feet; conductor 18; quick sand and gravel, 110; well was cased at 276 feet; the drilling was hard from 110 feet down to 1200; there was a great deal of sand from 110 down to 2000 feet; drilling was fair from 1200 to 1400; at 1626 feet gas was struck in quantities sufficiently large to fire the boiler. When the well was

shut down from Saturday night, at midnight, until the same time Sunday night, the gas caused the well to freeze up so that the ice had to be drilled out. When the tools were left standing in the hole one night, the ice froze around them so firmly that an engine pully was broken in an attempt to remove them. The sand was about 35 feet in thickness, and of greenish-white color. Mr. Stoup denominates it the first sand. At 1800 feet, a white sand having a thickness of from 15 to 20 feet was passed, and the second sand, having a thickness of 30 feet, was struck at 1925 feet. At 2010 feet, what the drillers term a clover-seed sand was perforated. It had a thickness of 30 feet, and contained no salt water. At 2155 a red, or chocolate, sand was struck, having a hard, white shell on top. One bit in this sand struck a heavy vein of gas. Three screws in, or about 2,170, salt water was encountered and the well filled up from 400 to 500 feet with it. This sand had a thickness of 70 feet. At 2,225 the drill passed through one foot of slate and below it 30 feet of dark, inferior sand was found. At 2,255 feet a dark slate having a thickness of 53 feet was encountered. The large flow of gas was struck at 2,308 in a gray sand from 5 to 8 feet in thickness. The bit was only slightly dulled while passing into this sand. This gas blew out the salt water pebbles and everything else in the well. Below the gas sand the drill passed into a bed of slate 20 feet in thickness. From 2,336 to 2,430 they drilled into a red chocolate sand a distance of 94 feet.

THE ROY & ARCHER WELLS.

Mr. O. H. Parsons, the contractor who drilled the Roy & Archer wells, and Mr. Clemenger, furnished the following records. No. 1 is located near the central point of warrant 3788:

	Feet.
Mouth of well above ocean level	1765
Well cased	250
First sand	1410
Second sand	1614
Third sand	2107

Joseph Duke sold his interest in the property after the well was drilled to a depth of 2,100 feet and abandoned as a failure. Two months later Clemenger recased the well and drilled it deeper, striking a sand which resembles the Bradford sand at a depth of 2,110 feet. The drill was stopped at a depth of 2,180 feet, disclosing the existence of 52 feet of sand. It gassed heavily from the top of the third sand and did not show any oil at the time and was free from salt water though drilled 20 feet below the sand to make a test for it. The well showed a gas pressure of 120 pounds to the square inch when it was shut in for seven minutes. The sand was washed in hot water at the time the well was completed, but did not show any traces of oil until several months later. It was given a 30-quart shot, which increased the flow of gas but did not improve its indications of oil. Mr. Duke disposed of his interest in the well and leases for the sum of $1,500.

Before locating the Roy & Archer No. 2, Clemenger came to Rixford and measured the distance from the Pickett gas well to the large producing wells in the hollow on the south side of the ridge between Rixford and Cole Creek. He chose a location for the second rig 100 rods west and 40 rods north of No. 1. Only a partial record of this well has been obtained:

	Feet.
Mouth of well above ocean level	1822
Well cased at	360
First sand	1480
Second sand	1700
Third sand	2163

Mr. Clemenger reports a sand above the gas or third sand, which showed some oil. The drill disclosed the existence of 56 feet of the third sand. The gas increased in volume when the sand was penetrated to a depth of 5 feet, and 20 feet below the top the sand was soft for 10 feet and saturated with oil.

The Roy & Archer No. 3 is located 110 rods west of No. 2 and a short distance north of it. From various sources the following record has been obtained:

	Feet.
Mouth of well above ocean level	1922
Well cased at	340
Struck gas sand at	2281
Bottom of well	2337

Mr. Clemenger reports a sand 150 feet above the deep sand containing the gas, having a thickness of 13 feet, from which the well filled up five hundred feet with oil in four weeks. There was no gas in the upper sand and the oil was of a dark green color. Gas from No. 2 well was used in drilling No. 3 by introducing it direct into the cylinder of the engine. This well, though the nearest to the producing wells, was dry in the deep sand. The No. 3 well was completed in September, 1881.

WARRANT 3777—THE EMERY WELL.

Mr. L. E. Hamsher, of the Emery Oil Co., gives the following record of the well drilled by his company on warrant 3777: The well is located on the southeastern corner of the warrant, 160 feet from the eastern boundary line and 200 feet from the southern. Drilling was commenced January 24, 1883, and on the 17th of March a depth of 2160 feet had been reached, when the drillers were sent away. Afterward the well was drilled deeper and abandoned as a failure at a depth of 2247 feet. What Mr. Hamsher calls the third sand was tapped at at 2083, and at 2200 feet a brown or red sand having a thickness of 35 feet was reached. The well was quite gassy and showed some oil in the top of the deep sand, which has a lodgement between 2200 and 2247 feet. The top of the deep sand is 117 feet below the brown sand which Mr. Hamsher calls the third sand.

	Feet.
Elevation of mouth of well above ocean level	1730
Conductor	16 to 16
Red rock	400 to 700
First sand	1440 to 1465
Red rock	1650 to 1665
Second sand	1740
Third sand	2083
Deep sand, like Bradford sand, gassy and with showing of oil	2200 to 2235
Depth of well	2247

F. M. Leasure leased the lands and held an interest in the Emery well. He secured 400 acres from J. A. Knox, a farmer of Norristown, Pa., and 700 acres from A. L. Crawford & Brothers, iron and coal men of New Castle, Pa. The Knox lands have since been forfeited, but the Emery Oil Co. holds a lease on the balance of the warrant. Mr. Leasure said the well filled up with oil 80 feet in 30 hours.

WARRANT 3784—THE GILMORE & JOHNSON WELL.

John Johnson and Alfred Gilmore, Jr., & Co., completed a well on the eastern part of warrant 3784 in July, 1884. A sand which gave a volume of gas that blew water and pebbles out of the hole was struck at a depth of 2327 feet. The sand was penetrated to a depth of 50 feet when the tools were lost. This well is located 600 rods southeast of the Emery well, and 700 rods southwest of the Roy & Archer well.

A funny incident is related concerning the finishing of this well. After it was drilled about 30 feet below where the gas was struck, the gas was so strong that only a day-light tour could be run. Adam Davis and I. L. McBride, who ran one tour, and Frank McLane and Wm. Lytle, who had the other, played a game of seven-up to decide who should finish the drilling. Davis and McBride won the game and left the well, the other parties continued drilling until the gravel blown out of the gas sand locked the tools in the hole. After the casing was drawn, the gas caused the well to make the water flow by heads. Mr. McBride says that neither oil nor salt water was found at the well, and that the gas came from a sort of gravel bed.

THE HALLOCK & JOHNSON WELLS.

Johnson, Hallock & Tack Bros. well on Hunter's Run, warrant 3663, Elk county, struck the brown sand at 2,268 and was finished at 2,316 feet. This is situated six miles southwest of the Emery well and had a fair showing of oil. It was given a 50-quart shot, tubed, and pumped for some time as much as three barrels per day. In the fall of 1882 the 250-barrel tank contained some oil.

Hallock & Johnson finished a test well on the northwestern corner of warrant 3653 in October, 1882. Lewis Kraeer was the contractor, and scouts Hughes, Edwards and the writer saw the well drilled into the sand. The first sand was reached at a depth of 1890 feet, the second at 2,115, and the third sand at 2,400. Gas was found at several points above the last sand, and the volume increased so largely that drilling was suspended when the sand-rock was penetrated 48 feet. The drill stopped at a depth of 2,448 feet, without showing any traces of oil. The well was cased at a depth of 465 feet.

Johnson & Tack Bros. drilled a well between 2,400 and 2,500 feet below the surface, near the centre of warrant 2,532, in Millstone township. It added one to the list of failures.

The Johnson & Hallock well,on warrant 3,773,about two and a half miles east of Brookston, was completed during the winter of 1882 and 1883. It is located near the southern line of the warrant and along Crane Run. According to barometric levels, taken by the writer, the well is 180 feet higher than the P. & E. R. R. at Sheffield, which would make its mouth 1,519 feet above ocean level. The well was cased at a depth of 370 feet. The Bradford sand, having a thickness of four or five feet, was struck at a depth of 2,090 feet. There was a showing of oil in the sand. A slight amount of gas was found in the Sheffield or Cooper sand. The top of the Bradford sand at this well is 571 feet below tide.

Ed. McDermott. of Clarendon, John Johnson, George Porter and others sunk a dry hole on warrant 3662. This failure is situated about 200 rods south of the well on warrant 3663 and is nearly on a line between warrants 2,663 and 3653.

THE HOODOO COUNTRY.

The Hoodoo well, in the southwestern corner of warrant 3668, in the eastern part of Forest county, was drilled by the scouts in the winter of 1883. Messrs. J. C. Tennent, P. C. Boyle and L. A. Beaumont were the interested parties. It required 40 feet of drive-pipe to reach the bed-rock, and the well was cased 450 feet. Salt water was found in the Clarion sand, at 587 feet, and a white pebbly sand was found at 1,475 feet, which afforded five bailers of oil daily. Sand was encountered from 1,670 to 1,709, and at 1,735 feet a red sand was discovered having a thickness of 40 feet, and resembling the stray sand of the Cooper tract. From this level the drilling was hard down to 1,900 feet. The formation from 1,900 to 2,130 consisted of shells and black slate. This well drilled by the scouts, had a showing of oil which made prospecting in its vicinity alluring, and large expenditures have been made in the endeavor to open up a new field. S. B. Hughes secured lands and with John Johnson and M. Murphy drilled one well northwest of the Hoodoo, and a second one 1,600 feet east of it. Both of these wells were failures; but not to be discouraged Hughes drilled a third well in this section on a 45 degree line northeast of the Hoodoo well and about 60 rods from the northern boundary line of the warrant, which was also a failure.

Windsor & Co., of Titusville, have completed two small wells along the eastern boundary line of warrant 3561, almost due south of the Hoodoo well. The Frost dry hole is situated on this warrant and southwest of the Hoodoo well, and Butts & Palmer have added a duster to the list on a warrant still further to the west.

TIDEWATER ELEVATIONS.

Mr. P. T. Kennedy, of Bradford, who employed a corps of engineers to ascertain the difference in elevation between the various wells, has kindly furnished the AGE with a copy of Engineer Morgan's report which is as follows:

TABLE OF CONNECTED LEVELS.

	Well No.	Elevation Above Tide	Mean Atlantic Ocean Level
Kane Summit—Philadelphia & Erie R. R. track	--	2002.83	2020
Highest point on Main St. (near St. Elmo)	--	2021.43	2039
Kane Gas Co	1	1990 40	2008
Kane Gas Co	2	1877.10	1894
National Transit Co. (near pump station)	--	2020 30	2037
End of plank road, southwest of Kane	--	1988.60	2006
Howe, Tennent & Co 's new rig, Swede Settlement, Lot 424	--	1789.70	1807
Top of hemlock stump, near Weaver's Mill	--	1689.60	1707
Summit of ridge south of Craig & Cappeau well	--	1974.50	1992
Craig & Cappeau well (warrant 3657)	--	1846.10	1863
Roy & Archer well No 1 (warrant 37 8), on South Branch of Tionesta, near mill works	--	1747.90	1765
Roy & Archer well No, 2, (warrant 3788), on small run north of Johnson's saw mill	--	1805.10	1822
Roy & Archer well No. 3 (warrant 3788), on north side of ridge, 100 rods west of well No. 2	--	1904.50	1922

In volume N of the Geological Survey, table 129, the elevations of points on the Philadelphia & Erie R. R. are published from an old profile. In this table the "mean tide" elevation of Kane is given at 2,002.83 feet. The levels of the road were run again in July, 1879, and Mr. Ashburner publishes the corrected figures in volume R of the Survey, where he makes the elevation of Kane, on the P. & E. R. R., 2,013.01 feet above high tide at Philadelphia, and 2,020 feet above mean Atlantic Ocean level. In the second column of the above table the elevations are reduced to mean Atlantic Ocean level to correspond with Kane at 2,020 feet above tide, with the elevation of a well above tide-water, and the depth at which the sand was struck, the distance of the top of the sand above or below tidewater level is determined by simple subtraction. In the table given below the elevation of the top of the sand above or below tide for a number of wells surrounding the Craig & Cappeau is given:

LOCATION.	Name of Well.	Elevation mouth of well above tide.	Depth at which sand was struck.	Top of sand above or below tide.
3084, McKean County	Hulings No 1	1625	1545	-1-80
3076, " "	" No 3	1715	1665	-1-50
3123, " "	P. C. L. & P Co	1718	1768	—50
Kane, " "	Kane Gas Co's No. 1	2008	2488	—480
" " "	" " " No. 2	1894	2305	—411
3767, " "	Craig & Cappeau	1863	2335	—472
3778, Elk County	Roy & Archer No. 1	1765	2107	—342
" " "	" " No. 2	1822	2165	—343
" " "	" " No. 3	1922	2281	—359
3773, " "	Hallock & Johnson	1519	2090	—571
3777, " "	Emery Oil Co	1730	2200	—470
424, McKean County	Howe, Tennent & Co	1807		

It will be seen in the above table that the top of the sand at the Craig & Cappeau well is lower than at all the others except the Kane Gas Co.'s No. 2, and Johnson & Hallock's well along Crane Run, on warrant 3773. The sand at the Kane Gas Co.'s No. 1 is 69 feet lower than at No. 2, and the wells are only seven-eighths of a mile apart. The top of the sand at the Roy & Archer Nos. 1 and 2 are practically on a level, while in going from No. 2 to No. 3 there is a rise of 16 feet in 110 rods.

From the above data and a map showing distances and directions between wells the following estimates on the dip of the rock between wells has been made. As yet the geologists have not told us about the geological horizon from which the Craig & Cappeau well gets its oil. The following calculations will show the average dip or difference of level between the point where oil is reported to have been struck, at this well, and the other wells enumerated in the table. The table, as far down as the line showing the dip between the Hulings No. 1 and the Kane Gas Co.'s No. 2, was taken from Volume R of the Geological Survey.

Locality and Elevation of the Top of the Bradford Oil Sand.		Distance in miles.	Direction	Average dip per mile, in feet.
From.	To.			
Bradford, 414.	Hukill well, —104.	20.	S 44° W	26
Bradford, 414.	Degolier, 377.	3.	S 8° W	12½
Degolier, 377.	Lewis Run, 294.	2.25	S 8° W	37
Lewis Run, 294.	Big Shanty, 122.	2.5	S 11° E	69
Lewis Run, 294.	Smethport, 250.	11.	S 68° E	4
Smethport, 250.	Wilcox No. 3 —19.	17.25	S W	15½
Hulings well No 1, —80.	Wilcox. —19	11 50	S 85° W	16
Wilcox well, —19.	Bear Creek well, —555.	8.	South	67
Hulings No. 1, -1-80.	Kane Gas Co.'s No. 2, —411.	9.37	S 39° W	52
Hulings No 1, -1-80.	Craig & Cappeau, —472.	12.34	S 44° W	44½
Kane Gas Co.'s No. 2, —411.	Kane Gas Co.'s No. 1, —480.	.88	North	78
Kane Gas Co.'s No 2, —411.	Craig & Cappeau, —472.	3.06	S 58° W	20
Roy & Archer No. 1, —342.	Roy & Archer No. 2 —343.	.34	N 16° W	3
Roy & Archer No. 2, —343.	Roy & Archer No. 3, —359.	.34	N 15° W	47
Roy & Archer No 1, —342.	Craig & Cappeau, —472.	2.25	N 41° W	57½
Craig & Cappeau, —472.	Johnson & Hallock, Crane Run well, —571	3.62	S 72° W	27
Emery well, —470?	Craig & Cappeau, —472.	3 31	S 17° W	½

From the Hulings No. 1 on Kinzua Creek to the Craig & Cappeau well, a distance of 12.34 miles in a southwesterly direction, there is an average fall or dip per mile of 44½ feet. From the Craig & Cappeau to the Johnson & Hallock well on Crane Run the average dip per mile is 27 feet. The top of the deep sand at the Emery well is reported to be 470 feet below tide, which places it about on the same level with the Craig & Cappeau well. After going to an expense of about $200 in leveling and surveying, Mr. P. T. Kennedy concluded it was not safe to venture far from the initial strike, and made his purchases as near to the well as possible. All available figures show a wavy and irregular rock formation. What the drill may disclose in the future will be recorded in THE PETROLEUM AGE.

Buffalo Lubricating Co. vs. The Standard.

At the Court of Sessions, at Buffalo, on December 16th Hiram B. Everst and Charles M. Everst were arraigned through counsel on an indictment charging them with conspiracy. Their attorney, Hon. Charles W. Goodyear pleaded not guilty for them and reserved the right to withdraw that plea and demur. The Messrs. Everst were indicted on October 2d, of this year, together with John D. Archbald and Ambrose McGregor, both of whom were arraigned on October 9th, and made the same plea. The offence of conspiracy is a misdemeanor and in such cases the presence of the accused is not necessary. All the gentlemen, who are officers of the Standard, Acme, and Vacuum Oil Companies, gave bail to appear when wanted.

The indictment charges the parties named with conspiracy to ruin the Buffalo Oil Company by inducing employees of that company to so construct the stills, apparatus, etc., that the crude petroleum would, when necessarily heated, explode and destroy the works; that the defendants wrongfully seduced employees to betray business secrets, etc.; that they procured witnesses to perjure themselves in malicious actions brought in the Court, against the Buffalo company, and otherwise injure the business and trade of the Buffalo Lubricating Company. The damages are placed at $200,000.

The People's Gas Company.

The Pittsburgh City Council still refuse to grant the People's Gas Company (J. N. Pew and E. O. Emerson) the right of way to enter the city. But according to the *Commercial Gazette* the company have already passed the city limits and have two eight-inch mains laid to within a mile of Soho. The plan adopted by the company is to buy the right of way through private property. Starting from their wells at Murraysville they laid their pipe along the Greensburg pike to Wilkinsburg. From there they carried the line to Swissvale, which brought them to the city limit. They had secured the right of way all along through gardens and farms. They laid their line down the valley of Nine Mile Run to the Morton place, and through that over Squirrel Hill to Hazelwood. The pipes were all laid very deep to protect them from extreme heat or cold. They were also laid very carefully. When a road is reached it is crossed by boring under the surface and pushing the pipe through. The consent of the owners of the half of the road in front of each property-holder is secured, and then the work is done. A branch from the main pipe crosses the river and runs into Homestead. The town will be supplied by this company just as soon as the pipes can be laid.

MR. H. L. TAYLOR, President of the Union Oil Company, has abandoned the well which he started to drill on the grounds near his residence on Delaware avenue, Buffalo.

Echoes From Kane.

The race for the saud, between the Scout's well, as the test of Tennent, Howe, Stow & Lavens is called, on lot 424, and that of Murphy, the Mystery man, on 3778, is watched with eager interest by the trade. Both are important tests that will go far in solving the future outlines of the new development.

George H. Lyon, C. E., of Bradford, has completed the survey of Horton, Crary & Co.'s railroad that is to tap the Kaue field in the vicinity of the Murphy well. Two miles of grading is already completed for this road and one mile of track has been laid.

It is promised that work on the connecting link, between Mt. Jewett, the present terminus of the P. & W. R. R. and Ormsby station, on the B., B. & K. R. R., will be commenced shortly. This will complete the narrow-gauge system between Bradford & Pittsburgh. The idea of a railroad ronte through this section of country was suggested as far back as 1858, long before the existence of an oil well was thought of, and before Colonel Drake had started the drill at the first well.

The Kane Oil Field Railway Company will build a short line three miles long from the P. & W. R. R. into the heart of the prospective oil region. Three miles of the P. & W. track will be used, which carries them within three miles of the Craig & Cappeau mystery. The road will be lengtheued as the new development warrants the expenditure.

All kinds of rumors have been afloat since the Craig & Cappeau well ostensibly had the plugs drilled out. The gauge of the well, as reported by Hefferman, and sent out every morning, varies from 93 to 95 barrels. The owners remain reticeut in regard to the sand, and outsiders are rigidly excluded from the well. Whether the well is through the sand, or still has a couple of pine plugs at the bottom, are facts yet in the possession of the owners and their immediate friends. Pointers from the two Joes are remarkably scarce, and until other wells are drilled to the requisite depth, they hold the key to the situation.

Beaver County Oil.

Some excitement prevails near Rochester, in Beaver county, over the last strikes of the Galey Brothers, on the Taylor Baker farm, in what is known as the Phillipsburg district. It is the sixth well that the firm has drilled, and made such a good showing that it was shot on the 2d inst., with eighty quarts of glycerine. The first gauges of the well were taken from a two-gallon bucket which careful reporters wired their respective papers was filled in exactly one minute and thirty seconds. A good portion of the flow was salt water, but reliable estimates placed its production at "forty gallons of solid oil per hour, or twenty-two and six-sevenths barrels per diem." It is now flowing from 18 to 20 barrels a day.

The oil sand is struck at 923 feet, and is fourteen feet thick. It is of the loose, white pebbly character. The Rochester Supply Company have started to drill a couple of hundred feet east of this venture, and the Galey Bros. are drilling on the west. A rig is going up on the Gilbert Trumpeter farm. Considerable leasing has been done in this locality, and further developments will be awaited with interest.

CLEVELAND capitalists are reported taking an active interest in the oil development at Findlay, Ohio. The oil from the "brickyard" well is shipped in bulk to Chicago, and commands 40 cents per barrel.

The Transport of Petroleum From America in Bulk

The petroleum trade between the United States and this country has hitherto been carried on by means of ships which bring the oil over in barrels ready for the market. It has, however, been thought that an advantage would be gained by bringiug the petroleum over in bulk, and barreling it here. To this end the Crusader, of New York, was purchased and fitted up with tanks, and has just brought over her first cargo of oil, which is being discharged in the Regent's Canal dock.

The Crusader is a bark of 642 tons register, timber built, and fitted with 45 cylindrical iron tanks, which are capable together of carrying 177,000 gallons of oil. There are also eight auxiliary tanks for use in case of the expansion of the oil by variations of temperature. The tanks are all fitted in the cargo space of the vessel, and on deck is a Blake steam pump of 8-horse power nominal, supplied with steam from a 20-horse boiler.

At New York the oil was brought alongside the ship in tank lighters from the refinery and pumped into the tanks on board the Crusader. In the Regent's Canal Dock the converse of this is now going on. The oil—which is refined petroleum—is being pumped from the tanks on board the ship through about 100 feet of 4-inch iron pipe, which has been laid under ground to the dock basin.

At this latter point the oil is discharged into a tank lighter capable of carrying 8,000 gallons. The oil is conveyed to a wharf on the Thames, where it will be barrelled for the market. The tanks on board the Crusader are all connected with each other and with the pumps by pipes and valves, so that they can be used altogether, in several groups or singly, as may be desired. Should this initial movement prove successful from a commercial point of view, it will materially modify the present system of ocean transportation of petroleum, turpentine, and other similar liquids.—*London Times.*

GEN. BEAUREGARD will give a history of the Shiloh Campaign in the January number of the North American Review. He claims that Gen. Algernon Sidney Johnson acted only as a corps commander at Shiloh. Gen. Beauregard emphatically asserts (contrary to the common belief) that he was the sole commander on both days, and, without naming them, controverts the reports of Grant and Sherman as to the nation's forces being taken by surprise.

THE United States have more than three times' as many miles of telegraph line, double the number of telegraph offices, and forward twice as many telegrams annually as any other country on the globe. Russia comes next. France, Germany, Austria and Australia rank ahead of Great Britain in miles of line, having 45,878, 45,070, 31,121, and 27,831 miles respectively, though Great Britain, with 31,345,861 telegrams forwarded, sends a few more than one-half the number sent last year in the United States.

General Phineas B. Pease, has been removed, by order of Judge Baxter, of the United States Courts, from his position as Receiver of the Cleveland and Marietta railroad and General A. T. Wikoff appointed in his place. The reason for the removal is that General Pease had been making unjust freight discriminations in favor of the Standard Oil Company, which had an arrangement with Pease, by which it received 25 cts. per barrel rebate on all the oil it shipped, and likewise 25 cents of the 35 cents per barrel collected from other oil shippers.

November Production Report.

Reports of the stocks on hand at 6,184 Bradford wells, showed an average increase of four and nine-tenths barrels to the well during November:

Time.	No. Wells.	Gross Stocks.	Average per well.
December 1, 1885	6,184	339,609	54 9
November 1, 1885	6,172	308,506	50.0
Difference	12	31,103	4.9

The number of wells in the Bradford field connected with the pipe lines on the 1st of December is estimated at 13,700. Estimating the entire Bradford region on the basis of four and nine-tenths barrels increase, the total increase in stocks at wells during November was 67,130 barrels, a daily average of 2,238 barrels. Adding the increase in stocks to the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for November is as follows:

	Barrels.
Average Daily Pipe Line Runs	29,117
Average Daily Increase of Stocks at Wells	2,238
Bradford's November Production, estimated	31,355
" October " "	30,180
Average Daily increase	1,175

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
December 1, 1885	1,142	45,051	39.4
November 1, 1885	1,141	42,090	36.9
Difference	1	2,961	2.5

The wells from which reports were received had an average increase of two and five-tenths barrels to the well during November. With 4,025 wells in the field on the 1st of December, these figures give a total increase for the field of 10,062 barrels, or an average increase of 335 barrels per diem. Adding this amount to the average daily pipe line runs, 6,667, the sum, 7,002, will represent Allegany's production during November. The October average was 6,747 barrels.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the 1st of each month, with their averages, are contained in the following statement:

Field.	No. Wells Nov 1.	No. Wells Dec. 1.	Average per well Nov. 1.	Average per well Dec. 1.
Clarendon and Tiona	194	204	31	25
Cherry Grove	22	22	43	47
Cooper District	144	146	55	65
Thorn Creek	61	61	133	135
Lower Country	84	85	49	61
Miscellaneous	160	164	104	99

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for November and October is as follows:

Field.	November. Barrels.	October. Barrels.
Bradford	31,355	30,180
Allegany	7,002	6,747
Outside Runs	23,087	23,161
Total	61,444	60,088

The following table shows the comparative production for 1883, 1884 and 1885:

	Bradford.		Allegany.		Outside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481	11,607	13,154	18 561	13,573	62,546	65,208
March	31,912	37,754	11,768	12,619	19,764	14,031	63,444	64,404
April	32,442	38,810	11,848	13,742	19,162	16,655	63,452	69,207
May	33,922	39,039	11,547	13,793	19,549	16,613	65.018	69,445
June	33,753	35,279	11,108	13,499	19,977	18 330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
August	33,353	35,087	10,384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12.335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22.762	19,238	63.876	67,981
November	31,789	35,026	8.642	12,678	23,557	18,433	63.988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16,140	55,529	59,240
February	27,051	32 378	7,196	11,607	19,800	18,561	54.047	62.596
March	26,444	31,912	7,342	11,768	19.923	19,764	53,709	63,444
April	27,413	32,442	7,169	11,848	23 067	19,162	57,649	63.452
May	27,231	33,922	7,049	11,547	21,225	19,549	55.505	65,018
June	29,272	33,753	7,463	11,108	21,559	19,977	58,294	64,838
July	30,309	34,031	7,139	11,218	19,273	20,870	56,721	66,119
August	29,858	33,353	7,065	10 384	18,608	22,830	55,531	66,567
September	30,205	32,976	7,186	9,877	21,269	22,514	58,660	65,367
October	30.180	31,758	6,747	9,356	23,161	22,762	60,088	63,876
November	31,335	31,789	7,002	8,642	23,087	23,557	61,444	63,988

In the above report no account is taken of the Macksburg field, which had an average production of about 2,031 barrels a day in November, 2,053 barrels in October, 2,270 barrels in September and 2,382 barrels in August.

THE Bridgewater Gas Company struck its twelfth well near New Sheffield on November 15. It is located on the John Born farm, and the gas vein was struck at a depth of 1,213 feet. The volume of gas is very strong, and it is now the largest well in this district. The company have nine wells connected with the mains, while three are yet blowing off into space.

IT will cost one million dollars to supply Buffalo with natural gas. A trunk line 65 miles in length will connect the McKean county gas district with the city on the lake. Several pumping stations will be necessary, and it is expected that the line will be laid and all other arrangements made to pipe the gas to Buffalo consumers by the first of next June.

GAS has been struck at Paoli, the county seat of Miami county, in southeastern Kansas, at a depth of 300 feet. The country hereabouts has for a long time been considered to afford oil indications, and shallow wells were drilled for the greasy product as far back as 1860. Several wells are now producing gas near Paoli, and in one of them a good quality of lubricating oil was found at a shallow depth. Paoli has a population of 3,500.

THE Philadelphia Gas Co. completed its 43d gas well on November 14th. It is located on the Harvey farm, near Murraysville, and was formerly owned by the Penn Fuel Co., when it was known as the Bruner well. When first drilled it was not properly cased, and the gas soon nearly ceased flowing altogether. The Philadelphia people went to work and drilled the hole a little deeper and cased it properly. With a rush the gas came flowing out in a volume and with it a curiosity in the shape of a 3½-pound lump of salt. The strange feature of the flow of gas having been stopped was explained. The original hole bored had a diameter of 5½ inches. In the lump of salt was a small hole about half an inch in diameter through which the gas was escaping. It is thought that the salt water oozed through the casing and by evaporation the salt crystals had been left, and by accumulation the lump had been formed, gradually filling up the hole.

THE clearances of the New York Consolidated Petroleum Exchange for the month of October were the largest ever recorded in the history of the business, having reached the enormous aggregate of 422,536,000 barrels.

THE PETROLEUM AGE.

VOL. IV. BRADFORD, PA., JANUARY, 1886. NO. 12.

THE GEOLOGY OF NATURAL GAS.

BY CHARLES A. ASHBURNER, GEOLOGIST IN CHARGE PENNSYLVANIA SURVEY, PHILADELPHIA, PA.

THE existence of natural gas-springs in Pennsylvania and the adjoining States west of the crest of the Allegheny Mountains was known to the earliest settlers. Possibly the first gas obtained from a well was at Fredonia, Chautauqua County, N. Y., where a well was sunk on the bank of Canadaway Creek, near the Main Street bridge, in 1821, and sufficient gas obtained for 30 burners, the inn having been illuminated by the gas when General Lafayette passed through the village about 1824. In 1858 another well was drilled, which supplied 200 burners. A still larger one was drilled to a depth of 1200 feet in 1871. According to Mr. E. J. Crissey, Secretary of the Fredonia Natural Gas Light Company, the average monthly supply of these wells in 1880 was 110,000 cubic feet.

Since 1859, when the drilling of oil-wells in Western Pennsylvania was commenced, natural gas has been obtained either in conjunction with oil or in wells which produced only a trace of oil. In most of the flowing oil-wells, the pressure which forces the oil up the well results from the gas contained in the oil-sand in the immediate vicinity of the well or at a considerable distance away. In the former case, gas is frequently mixed up with the oil as it intermittingly flows from the well-mouth, the gas coming from the well continuously between the oil-flows; while in the latter case, no perceptible quantity of gas is obtained from the well. I believe that, by special examination, all the oil coming from the Pennsylvania and New York wells may be proved to contain *some* gas.

The product of gas-wells has been utilized in various ways, particularly for light and fuel at the towns and villages in the immediate vicinity of the wells, and also to a limited extent for the manufacture of lampblack—sometimes called "diamond black"—by the deposition of the carbon resulting from the imperfect combustion of the gas. A comparatively small proportion of all the gas produced in the region, however, was ever made use of until within two years, when the introduction of gas into the industrial establishments—principally iron, steel, and glass-works—in the vicinity of Pittsburgh have made its use as a fuel an important consideration in the manufacturing industries of Western Pennsylvania.*

The geology of the oil-regions of Pennsylvania has been carefully studied during the past ten years by the geologists of the Pennsylvania survey, but more particularly by Mr. John F. Carll, who, since the commencement of the Survey in 1874, has been in charge of the special examination of that district. The detail geology of the region has been made public through numerous State reports,† which relate principally to the consideration of geological problems affecting the occurrence of petroleum: they necessarily, however, refer indirectly to the geology of natural gas, although no great attention has been directed to the latter question until the past summer, when a special survey was commenced by Mr. Carll, for the State, of the geology of portions of Western Pennsylvania in the vicinity of the recently-discovered oil and gas-pools, more particularly the latter. Until this survey is finished and Mr. Carll's report is published, our knowledge of this interesting question must be more or less incomplete.

The extensive drilling which is now being done by manufacturers, gas companies, and property owners in all sections of Western Pennsylvania and contiguous areas in adjoining States, where it is thought natural gas may be obtained, has made the study of the geology of natural gas one of pressing importance as an aid to locate profitable wells.‡

Much is being published as the result of interviews with practical gas-explorers and professional geologists on the subject: and, while I do not wish to anticipate the results of Mr. Carll's investigations, I desire to record a few general conclusions which have resulted from my personal field-observations extending over a period of ten years, and from numerous studies made in conjunction with Mr. Carll of the results of his oil-surveys, which have been more thorough, complete and valuable, than any which have been made relating to the geology of petroleum.

The general conditions upon which the occurrence of natural gas seems to depend, from a consideration of the facts at present at our command, are: (*a*) the porosity and homogeneousness of the sand-stone which serves as a reservoir to hold the gas; (*b*) the extent to which the strata above or below the gas-sand are cracked; (*c*) the dip of the gas-sand and the position of the anticlines and synclines; (*d*) the relative proportion of water, oil, and gas contained in the gas-sand; and (*e*) the pressure under

* It is estimated that at present there are being supplied with natural gas in the city of Pittsburgh alone, 1500 dwellings, 66 glass factories, 34 rolling mills, and 45 other industrial establishments, and that about 10,000 tons of coal are thereby displaced daily. The gas consumed in Pittsburgh, is used almost exclusively for fuel. The following figures, reported by T. P. Roberts, show the estimated value of coal supplanted by natural gas consumed in Pennsylvania, New York, Ohio, and West Virginia, in 1882, 1883, and 1884:

1882	Pittsburgh region,	$	75,0 0.	Elsewhere,	$140,000.	Total $	215,000
1883	"	"	200,000.	"	275,000.	"	475,000
1884	"	"	1,100,000.	"	360,000.	"	1,460,000

† See the following reports of the 2d Geol. Survey of Pa: I 2, I 3, I 4, and J relating almost exclusively to the oil regions proper; L, for the Pittsburgh gas-well, and the use of gas in the iron manufacture (1876); Q, Q 2, Q 3, Q 4, for references to oil-rocks in Beaver, Lawrence, Mercer, Crawford, Erie, and S Butler counties; K for the Dunkard creek oil-wells of Greene county; R R 2 for descriptions of oil rocks in McKean, Elk and Forest counties; V, V 2, for notes on the oil-rocks of N. Butler and Clarion counties; H 2 for oil-boring at Cherry Tree, Cambria county, G 5 for oil-boring in Wayne county.

‡ I believe it to be possible for an *experienced practical* geologist to define areas where it is impossible to obtain natural gas, and therefore, where it would be the height of folly to drill wells, and other areas where it is possible for natural gas to exist.

which the gas exists before being tapped by wells. Other conditions may still be discovered which will have as important a bearing upon the problem as these which I have stated.

The oil and gas-regions of Pennsylvania are one in a geological sense. The strata drilled through by the gas-wells in the vicinity of Pittsburgh (now considered the most important gas-district) are, in a general way, the same as the strata in the different parts of the Devonian and Carboniferous series pierced by the oil-wells at Smith's Ferry (30 miles north 60° west from Pittsburgh) and the Slippery Rock (34 miles north 20° west from Pittsburgh) districts, where in both cases, heavy oil is obtained from the base of the Coal measures and amber oil from the Berea grit; in the Thorn Creek (25 miles north 5° east from Pittsburgh) and south end of the Clarion, Butler and Armstrong (28 miles north from Pittsburgh) districts, where oil is obtained from the Venango (Devonian) sands; and in the Pleasant Unity (30 miles south 65° east from Pittsburgh), Dunlap Creek (31 miles south 12° east from Pittsburgh), Whiteley Creek (45 miles south from Pittsburgh) and Dunkard Creek (48 miles south from Pittsburgh) districts, where oil is obtained from the Mahoning sandstone (Lower Barren Coal measures) and overlying strata. The discovery of oil at Mt. Nebo, about 8 miles northwest of Pittsburgh, and the several small oil-wells reported to have been obtained in close proximity to the Washington (Chartiers Creek) gas-wells, together with traces of oil found upon special examination in the gas from wells which are supposed to produce absolutely dry gas,* the existence of natural gas either in or near all the productive oil-pools under geological and physical conditions similar to those found to obtain in what are frequently spoken of as "natural gas-regions proper," are all sufficient reasons for considering the districts, containing wells which are supposed to produce either oil or gas exclusively, one geologically. This conclusion is an important one in the consideration of the geology of natural gas, and it is believed that it is fully borne out by the numerous columnar sections of strata in Western Pennsylvania which have been published by the Geological Survey.

The general structural geology of the oil and gas-regions is comparatively simple. The rocks lie nearly horizontal, being thrown into broad and almost imperceptible rolls by southwest-dipping anticlines and synclines which are parallel, in a general way, to the escarpment of the Allegheny Mountains, and which produce gentle northwest and southeast dips from the crests of the anticlines down toward the centres of the synclines. An appreciation of the intensity of these dips may be had from the following figures: From the city of Bradford, in McKean County, immediately south of the Pennsylvania and New York State line, and about 72 miles, in an airline, a little south of east of the city of Erie, the strata dip at an average rate of 14 feet per mile to Oil City, which is 64 miles south 55° west of Bradford. From Oil City to Pittsburgh, a distance of 70 miles in a direction south 12° west, the average rate of dip per mile is about 20 feet. From the city of Erie to Beaver, on the Ohio River, at the mouth of the Shenango River, the distance is about 100 miles in a direction south 7° west, and the average rate of the fall of the strata is 20 feet per mile. Although these are the general dips of the rocks, yet many very much greater local dips occur in the areas between the localities named. The maximum dip in the Bradford oil-region, which I determined from my surveys in 1879, was 69 feet per mile, and this for a distance of only 2½ miles. In the Venango oil-belt and southern end of the Butler oil-belt the dip of the oil-sands, as shown by Mr. Carll's survey, rarely exceeds 35 feet per mile. A dip in the strata at the rate of 75 to 100 feet per mile, for even very short distances, is the rarest occurrence.

Although the horizontal structure of the oil and gas-regions is comparatively simple, the columnar structure, as revealed both by the study of the outcropping rocks and the records and drillings of oil-wells, is not so easily understood, and in special areas is more or less complex. The rocks which have so far been found to produce natural gas are found in a vertical range of about 3000 feet of Carboniferous and Devonian strata, extending from the Mahoning sandstone at the base of the Lower Barren Coal measures, which is on an average about 500 feet below the Pittsburgh coal-bed, down to the Smethport oil-sand in McKean County, which is 360 feet below the great Bradford oil-sand of that region. The principal gas-horizons are (*a*), the probable representative of the Venango first oil-sand at Pittsburgh, which is from 1800 to 1850 feet below the Pittsburgh coal-bed, and contained, as I believe, in the Catskill formation No. 1X; (*b*), the Sheffield gas-sand, which appears to be the lowest oil and gas-sand in Warren County—the horizon of this sand is about 800 feet above the bottom of the interval of 3000 feet—and (*c*), the Bradford oil-sand, which occurs 1775 feet below the base of the Pottsville conglomerate, which is the lowest member of the Lower Productive Coal measures. The Sheffield and Bradford sands are undoubtedly of Chemung age.

While most of the largest gas-wells which have been drilled in Pennsylvania have obtained gas from these three horizons, yet gas in commercial quantities is not exclusively confined to them. Between the Mahoning sandstone as the top limit and the Smethport oil-sand as the bottom limit, about 10 (more or less) prominent sand-beds have been found which produce pretroleum, and each one of these sand-beds has been found to contain gas in greater or less quantity, nor is it posssible to say that the gas is confined exclusively to these definite sand-horizons, for sand-beds having only a local occurrence, but included within the rock interval of 3000 feet, may contain gas.*

The origin of natural gas has an important bearing upon its economic geology. Although it is believed that we are in possession of much data to throw some light upon this interesting question of cause, yet it is still shrouded in too much uncertainty to permit of complete explanation. It is necessary, however, that some statement should be made in regard to the origin of gas in order to thoroughly comprehend the conditions upon which its existence seems to depend. It would appear that the gas is closely related to petroleum,† and that

* The gas obtained from the Carpenter well on the Daum farm, Westmoreland county, was supposed to be free from oil or water; when, however, the gas was confined under a pressure of 160 pounds to the square inch, water was precipitated. In the same way oil is found to exist in the gas from wells which are supposed to produce absolutely dry gas.

* Outside of Pennsylvania, in West Virginia, Ohio, and Kentucky natural gas is not confined to the Devonian formation, but has been obtained from strata as low in the geological column as the Lower Silurian limestone, although the most productive wells have obtained the gas from the Pennsylvania Devonian sands.

† According to Prof. S. P. Sadtler, the Pennsylvania and New York petroleum is a mixture of hydrocarbons which can be classed under the marsh-gas series (parafines) having a general formula C_nH_{2n+2}, and the ethylene series (olefines) having a general formula, C_nH_{2n}. The composition of natural gas from different wells or from the same well at differ-

their origin is due largely to the same cause—the decomposition of animal and vegetable life. It is believed that the gas is not indigenous to the sand-rock from which it is obtained, but comes from the decomposition of life forms which were entrapped in underlying strata. If this be so, the amount of gas contained in any one sand depends, first, upon the extent to which the rocks are cracked between the horizons of such organic remains and the gas-sand reservoir in order to permit the gas to flow into the sand; and, second, upon the extent to which the rocks are cracked above the gas-sand, which would permit the gas to escape into the atmosphere and totally disappear.

That the absence of both petroleum and natural gas in our plicated strata east of the oil-regions is to be explained by the cracking of the rocks would seem to be evident, since the survey of the outcropping rocks and a study of the records of dry wells show that the oil and gas-sands extend far beyond the limits of the area of the region in which any traces of oil or gas have ever been found. Even within the area where oil and gas-wells have been found the cracking or jointing of the rocks must have a potent influence upon the amount of oil or gas obtained in certain localities. From the surveys of Mr. A. W. Sheafer and myself in Elk County, it appears that the direction of certain streams is to be attributed to their flow along joints in the rocks, which have resulted from the contraction of the earth's crust during the process of secular cooling. I believe that this, in a measure, accounts for the occurrence of gas at certain points in western Elk County and its absence at other points, the gas being obtained where the rocks are not jointed, and not being found where they are jointed.

The first necessary condition for the presence of gas, however, is dependent upon the existence of a porous rock to serve as a reservoir to hold it. A number of wells have been drilled which have found gas, but, if the drillers' records are to be credited, have not pierced sand-beds; in these cases the gas has been unquestionably obtained from a crack in the strata which serves as a conduit to convey the gas from its sand-bed reservoir to the well. Although the dip of the gas-sand and position of the anticlines and synclines have an important bearing upon the occurrence of gas (in many cases this would seem to be the most important consideration), yet it is not believed that natural gas-wells can be located on what has been formulated as "the anticlinal theory," since all great gas-wells are not found along anticlinal axes, although some of the largest and most important wells in Pennsylvania have been found in such positions. A great many wells have been drilled in synclines which have found gas. These two statements are of great importance, since a large amount of money is now being expended in drilling wells which have been located on the basis of the anticlinal theory, so-called. The following references to notable instances where gas has not been found on anticlines, and where it has been found in synclines, will serve as sufficient illustration:

Most of the saddles and basins in western Pennsylvania have a progressive dip along their axial line toward the southwest, and a well, drilled ½ mile to the northwest or southeast of a given point on the crest of an anticline, may encounter any given stratum at the same elevation as a well drilled immediately on the crest of the same anticline, at a distance southwest from the given point; the distances in each case being dependent upon the intensity of the dip in the three directions. The anticlinal along which the famous Murraysville gas-wells in Westmoreland County have been drilled is an instance. About 10 miles northeast of the village of Murraysville two large gas-wells have been obtained about 3 miles apart, northwest and southeast, one on Beaver Run, the other on Pine Run. The total dip of the Upper Freeport coal-bed from the Beaver Run well to the Pine Run well is 215 feet, or at the rate of 70 feet per mile toward the northwest. The former well is found in close proximity to the anticlinal axis along which the great Murraysville wells are obtained further to the southwest, while the latter well is near the synclinal axis. The extension of the general direction of this anticlinal line to the northeast of the Beaver Run well crosses the Kiskiminetis River near the mouth of Roaring Run, where a well was drilled, evidently on account of the existence of the anticline at that point, but no gas was found. The Apollo well, about 3 miles northeast of the Pine Run well, along a line parallel to the structural lines of the district, found no gas. In the case of the Roaring Run and Appollo wells, it may be possible that no porous stratum which could serve as a gas-reservoir was pierced by the drill; this, as already stated, is the first necessary condition of the existence of gas.

The Ridgway gas-well is located in a syncline, and not on a subordinate anticline, as has been suggested, but at a point where there is a certain regular dip of about 1° toward the west, on the side of the syncline. The Kane gas-wells, including the large one at Kane, which is now supplying the residents of the town with light and fuel, and the famous Kane Geyser gas-well, are both in a syncline; the southeast dip in the one case, and the northwest dip in the other case, toward the centre of the basin, being less than 50 feet per mile, and the southwest dip along the axis of the basin being from 15 to 25 feet per mile.

The great McMullen and Hallock gas-well,* commonly known as the "Mullen Snorter," is not in the vicinity of any anticline. The gas-sand at this well is nearly horizontal, having only a dip of about 11 feet per mile in a direction south, 15° west.

The gas-wells found in the vicinity of the city of Erie are located in a region where no anticlines or synclines have been discovered. The dip of the rocks here is toward the southwest at the rate of about 20 feet per mile, from recent surveys, or, from the survey made nearly 50 years ago by the First Geological Survey, as pointed out by Professor Lesley, the average dip was estimated to be 14 feet per mile.

No anticlines exist in the vicinity of the Fredonia (N. Y.) wells, so far as the structure has been made out.

---

ent times, is found to vary slightly; according to recent analyses made by Mr. S. A. Ford, the average composition of the gas in the vicinity of Pittsburgh is:

	Per cent.
Carbonic acid,	.6
Carbonic oxide,	.6
Oxygen,	.8
Olefiant gas,	1.0
Ethylic hydride,	5.0
Marsh gas,	67.0
Hydrogen,	22.0
Nitrogen,	3.0
	100.0

100 litres weigh 64.8585 grams; 1000 cubic feet natural gas is equivalent in heating power to about 55 pounds of the average Pittsburgh bituminous coal.

* This well is located on the Loup farm in Olean township, Cattaraugus county, N. Y., and was drilled in the spring of 1877. It was one of the largest gas-producers ever obtained in the Bradford district. During the past three years it has produced but little gas, and during this time between two and three barrels of oil have been obtained from the well daily.

On the other hand, some of the largest gas-wells have been found on the crests of anticlinal axes: among them can be enumerated the Sheffield well, about 2½ miles east of Sheffield, which was drilled in September, 1875. This well still supplies the town of Sheffield with light and fuel and has proved one of the largest and most remarkable gas-wells ever drilled in Pennsylvania. The history of this well is interesting on account of the great pressure of gas, which made the drilling difficult. A vein of salt water was passed through at a depth of 418 feet, the water from which was permitted to leak into the well; the gas-sand, which was 45 feet thick, was struck at a depth of 1350 feet. The great pressure under which the gas was confined in the sand-bed was relieved as the gas flowed into the well, and the sudden change of pressure caused great heat to be absorbed from the water, which rapidly froze, until the well became almost entirely stopped up by the core of ice for a distance of nearly 200 feet above the gas-sand.

The Wilcox wells, 5 miles northeast of the village of Wilcox, in Elk County, are all located within ½ mile of the crest of the anticline which separates the Fifth from the Sixth bituminous coal-basin, the dips on either side of the axis of this anticline, toward the northeast and southwest, being at the rate of about 50 feet per mile. The dip of the rocks at the Sheffield gas-well is not quite so great as at the Wilcox wells.

The gas-wells in the vicinity of Marionville, Forest County; at Tarentum, in Allegheny County; at Murraysville, in Westmoreland County; and at Cannonsburg, and Hickory, in Washington County, are all located in close proximity to anticlinal axes.

An interesting fact, connected with the dip of the rocks as indepentent of the position of the anticlines in influencing the presence of gas, is to be seen in the flooding by water of the gas-sand in the vicinity of Pittsburgh, as recently pointed out by Mr. Carll. A line showing the limit of the flooded rock at this point has been approximately located by Mr. Carll, and in the area included by it but little gas has been found, although the gas-sand has been pierced by the drill. The rapid diminution in the flow of the gas from the wells in the vicinity of East Liberty would seem to be due to the driving back of the gas by the flooding of the gas-sand with water.

The relative proportion of water, oil, and gas in a sand bed, and the pressure* under which the gas exists, have an important bearing upon its occurrence, when considered in conjunction with the dip of the sand and the position of anticlines. If nothing but gas existed in a given homogeneous sand-bed, having only the ordinary dip of the strata in the oil-region, from which the gas could not escape by cracks into overlying strata, and the quantity of confined gas being such that it should fill all portions of the rock with gas under a great pressure, it must be apparent, that, no matter where the gas-sand was pierced by a well, the same quantity of gas would be obtained, excepting so far as it might be influenced by the force of gravity. If petroleum, water, and gas should all exist in the same sand-bed, the pressure on each would necessarily be approximately† the same, if there was an open connection throughout the whole extent of the rock in which they occurred; but the water would seek the lowest level of the sand-bed, the oil the next, and the gas would be found in the highest portions. The same condition of affairs would exist where either water or oil existed in the sand with the gas to the exclusion of the other.

A careful study of these facts makes it apparent that under special conditions the anticlinal theory alone may account for the existence of gas; but when, however, it is known that large gas-wells have been found in synclines, under conditions differing from those which obtain in the vicinity of gas-wells on anticlines, it is quite certain that the occurrence of natural gas in the Pennsylvania and New York regions cannot be explained but by a careful consideration of *all* the geological and physical conditions under which it is procured.

The facts relating to the geology of natural gas now in the possession of any one geologist are not sufficiently numerous or connected to permit the acceptance of any ultimate theory; and it is only possible for the present to deduce special geotectonic conditions under which natural gas has so far been exploited. Some of these conditions are so varying and apparently antagonistic that it is only possible to arrive at any general law controlling the occurrence of natural gas, by a comparison of the individual facts obtained from innumerable well-drillings.

Mr. C. D. Angell, one of the most successful oil-operators in the early history of petroleum-mining, deduced a theory in 1867 accounting for the existence of oil in definite areas. This was known as the "belt-theory," and sought to maintain that oil would always be found along lines having a definite direction, irrespective of their length; and to this day many oil-wells are located on degree-lines upon the basis of the belt-theory. It has long been proved by the investigations of geologists and the results of practical drillers, that within individual oil-pools the most productive wells have been located along definite degree-lines; yet the belt-theory has long since been abandoned by the most intelligent operators, as being insufficient to account for the existence of petroleum under all conditions. The history of this theory will doubtless prove analogous to the history of the anticlinal theory as accounting for the existence of gas. Many gas-wells are now being located in Pennsylvania and West Virginia and Ohio on the basis of this theory, and in many cases the practical driller is rewarded by finding the object of his search; but it is quite certain that the theory, as an ultimate means for the locating of gas-wells is quite insufficient, and will lead to failure in special cases.

* The pressure under which the gas flows from differnt wells varies greatly. In the Pittsburgh district it ranges on an average between 100 and 200 pounds per square inch. Mr. Carnegie reports that at their works, where the gas is used 9 miles from the well, the pressure was 75 pounds per square inch. When I visited the Bessemer Steel Co.'s works, at Homestead, on the 27th of last August, the recorded pressure was 60 pounds per square inch. The highest pressure I know of being measured was 750 pounds per square inch. I believe, however, I have seen the gas coming rrom wells under special conditions at even a greater pressure than this.

† The pressure at the bottom of a sheet of water or oil which nowhere, in the sand-bed, could be of any very considerable height, would be but slightly augmented by gravity.

BUTLER Borough has instituted an action in Equity against the gas company of that city to compel them to shut off their gas or give the borough a bond of $50,000, to indemnify it in case of any damage that may result from escaping gas.

Two companies will supply Meadville with natural gas, the Columbia Gas Co., and the Pennsylvania Gas Co. The Columbia obtain their supply from the McKeever gasser in Venango county. A branch line will run from Cochranton to Mercer, Greenville, Clarksville, Sharpsville and Sharon.

OIL REGION CHRONOLOGY.

FOR DECEMBER, 1885.

Dec. 1. AGE Oil Report shows 388 wells completed in November, 53 of which are dry; new production 4583 barrels; new rigs 283; old rigs 105; wells drilling 389; total field operations for November 777; decrease from October figures 40. Market opens strong at 89, advances to 90 1-2 and breaks rapidly to 86 3-4, goes up to 89 3-4, declines to 88 1-8 and closes at 88 5-8. Carrying, Bradford and Oil City flat, New York 25 to 40cts, Pittsburgh 50c. Flags at half-mast, and general cessation of business from 12 m. to 3 p. m., in honor of funeral of Vice President Thomas A. Hendricks. Kane well gauged 67 barrels. Anchor 5 at Kinzua village starts at 38 bbls the first hour, and drops off rapidly to 14 bbls an hour. Meeting in Oil City Exchange in regard to improvement of Allegheny river; committee of ten from Board of Trade appointed to confer with the Improvement Association of the Allegheny Valley. Gantz well, Washington, about six feet in Gordon sand, and waiting to have cave at bottom packed off.

Dec. 2. Market somewhat firm. First sales at 89c., rose to 89 1-2 and broke to 87 3-4. Rallied to 88 5-8, went back under heavy selling to 87, recovered to 88 3-4 and closed steady at 88 1-4. Carrying, Bradford flat, New York 50 to 60, Oil City 20 and 25c., Pittsburgh 50c. Market broke 1 1-2c. on news that McJunken well, Butler, had made an eight barrel flow. Well drilled through twenty feet of sand in evening and estimated at 25 barrels. Steam tow boat "Iron City," run aground at Herr's Island in Allegheny river near Pittsburgh, directly over the Philadelphia Co.'s main gas line. The pipe was broken and the natural gas escaped and was exploded from furnace fire. Boat consumed but no lives lost. Kane well gauges 64 bbls. Anchor No 5, Kinzua village, made 378 bbls first 24 hours. Gordon well, Washington county, gauges 68 barrels. Gailey Bros. well on the Taylor farm at Phillipsburg, shot with 60 quarts, and started at 35 barrels. Refined declines 1-8c. in New York, advances in London and marked down firm 19 1-2fr. to 18 1-2fr. at Antwerp.

Dec. 3. Market active. Opened at 88 5-8, advanced to 89 and broke to 88 1-4. At noon, advanced under New York buying to 90 3-8, then reacted to 89 1-2. In the afternoon rushed up to 92 1-4, went back to 91 3-8 and closed steady at 91 3-4. Carrying, Bradford flat, New York 50c., Pittsburgh 50c., Oil City 40c. Accident on Erie R. R. at Scio, N. Y. St. Louis Limited Express thrown from the track by a misplaced switch and the engineer, Henry Allen, killed. No passengers injured. The baggage and express car, with sleeping-car adjoining destroyed by fire. Fisher No 2 on James Jolly farm, Red Valley, district, in and dry. Anchor 5, Kinzua village, made 340 barrels for 24 hours ending this morning. Pipe line connections completed to the Kane well. Gauge for last 24 hours 67 barrels.

Dec. 4. Market opened strong at 91 5-8, fell off to 91 1-4, and rallied the first hour to 93 3-8. Towards noon grew weaker rapidly and made an uninterupted break to 89 3-8. A slight advance then occurred to 90 7-8 followed by a decline to 89 1-4. Closed at 90 bid. Kane well gauge 64 barrels. The pipe line takes oil from well for first time. Natural gas explosion on Grant street, Pittsburgh, wrecks two buildings and causes death of Kate Knapp, a young lady of 18 years. Mrs. S. J. Phipps, likewise seriously injured. Loss $14,000. Gas leaked into the cellars of the buildings from the lines of the Philadelphia Company. Gabby well at Washington, stops drilling in a hard white sand at 2608 feet. The Gordon sand was struck at 2548 feet. Eighteen feet of this rock encountered with but small show of oil. Anchor No 5 at Kinzua village, made 314 barrels in the last 24 hours.

Dec. 5. Market made an excited opening at 90, broke off easily to 89 3-8, rallied to 89 7-8, and fell back to 89 1-8, then slowly advanced to 90 7-8, reacted to 90, strengthened up to 91 3-4 and closed steady at 91 1-4. P. & W. R. R. between Kane and Mt. Jewett blockaded by snow and Bradford passengers compelled to spend Sunday in Kane. Premium on Middle Field and Lower Country oil reduced to ten cents per barrel. Kane well gauged 62 barrels. Anchor 5, Kinzua village made 279 barrels. Advance in the market caused by scarcity of certificates. Little oil was to be borrowed in New York and the shorts had to buy. At Oil City certificates commanded a premium of 25c.

Dec. 7. Market remains firm. Opened at 91 3-4, fell off to 91 1-4 and rallied to 92 3-8. Went back to 90 7-8 up to 92 3-8, and broke to 91 1-4 at the close. Carrying rates flat at Bradford and Oil City. Certificates pretty scarce. Reported they are locked up, with intention of putting up market when Kane well is opened. Argument Court, Judge Olmsted presididg, held for first time in Assembly Room of the Producers' Exchange. Bradford Evening Call suspends publication indefinitely. Kane well gauged 65 barrels. Macksburg Pipe Line burst between Macksburg and Parkersburgh and oil was discharged into the Muskingum river for several hours before break was discovered. Coldest day of season at Pittsburgh. Great difficulty experienced by Philadelphia Company in suppying consumers with natural gas, and the citizens suffer much inconvenience from the cold. Many mills shut down and the natural gas company receives few complimentary allusions.

Dec. 8. Market weaker, more oil appeared on the floor and carrying rates are revived. Opened at 91 1-4, with light trading, which is highest point and closed at 90 1-4, the lowest point. Carrying rates continue low. Death of Wm. H. Vanderbilt at New York, creates a sensation in speculative circles. Kane well gauge 65 barrels. Natural gas through the mains of the Shenango Light & Fuel Co., arrives at New Castle, Pa., from the wells in Butler county. Continued scarcity in the natural gas supply of Pittsburgh. Numerous mills shut down.

Dec. 9. Market opened extremely weak, with first sales at 88 1-2, fully 1 3-4c. below last night's closing. It then rallied to 88 7-8, broke to 88 3-8, advanced to 91 3-8 and closed at 90 1-2. Carrying rates, Bradford, flat to 15c., New York and Oil City, 25 to 35, Pittsburgh 50c. Gauge of Kane well reported at 65 bbls. Anchor No. 5, Kinzua village, makes 325 barrels. Tools run and plugs driven to the bottom. Residence of Wesley Greer, at Cannonsburg, Washington county, blown up by natural gas. Mr. Greer's mother badly and other members of the family slightly injured. Loss $5,000. Main line of Cannonsburgh Heat & Light Company passes within 20 feet of house, and gas leaked from it to Mr Greer's cellar. Wm. Domres and wife, while walking on the B. N. Y. & P R. R. near Oil City are struck by a passenger train, the man instantly killed, and the woman very seriously hurt. Valve house of the Philadelphia Company at Sandy Creek, Pa., destroyed by an explosion and the Lawrenceville and other mills along the Allegheny river are compelled to shut down from a shortage in the natural gas supply.

Dec. 10. Market opened with vigorous selling at 90 3-8 and fell off rapidly to 89 5-8c. in the first five minutes, recovered slowly and towards noon advanced to 91 1-8c. During the afternoon the market vibrated uneasily between 90 3-8 and 91c., closing steady at 90 1-2 bid. Carying rates. Bradford and Oil City flat, New York 25 to 40c., Pittsburgh 40c. Gantz well, Washington, upon being agitated makes a flow from the Gordon sand, of 11 inches in a 600-barrel tank. Kane well improved to 76 bbls as a result of yesterday's agitation. John Treddell, a laborer, instantly killed by a falling stick of timber while at work on the Emery Opera House at Titusville. Philadelphia Exchange decides in favor of moving from its present quarters at Third and Walnut streets, to a more suitable location. A break in the Acme branch of the Philadelphia Company's six inch line, located in the Monongahela river, opposite the City Poor Farm, cuts off the supply of natural gas to the Bessemer steel works, and other Pittsburgh mills.

Dec. 11. Reports from Kane well are that it his been drilled deeper without increasing its production and the market gained a little strength. Opened weak at 90 1-8, rallied to 90 3-4 and broke to 89 1-2. Toward noon it advanced to 91 3-8c., fell off to 90 5-8c. and at 1 o'clock was rushed up to 91 3-4c. From this point the market dropped off to 91 c. and in the last hour advanced sharply under light trading but heavy bidding to 91 7-8c. from which it broke to 91 1-4c., closing with sales at 91 3-8c. Kane well drilling away at plugs and still closely guarded. Gauge reported at 84 barrels for 24 hours ending this morning. Heydrick & Fuller well southwest of Red Valley, down and dry.

Dec. 12. Market waiting on Kane well. Opened at 91 3-8 and advanced to 91 5-8, broke to 90 1-4 and closed at 90 3-4. Kane well gauges 93 barrels. Scouts believe plugs have been drilled out. Well again shut down.

Dec. 13, Sunday. Kane well gauges 93 barrels last 24 hours.

Dec. 14. Market quiet and fairly strong. Opened at 90 1-2, lowest 90 1-4, highest 91 3-8, closed at 90 3-4. Kane well gauge 93 barrels. Gabby well, Washington, shot with 100 quarts, responds with about 30 barrels, and then bridges over. Gordon No. 2 made a flow this evening from rock below Gantz sand and rig is burned down. Production Gordon No. 1, 62 barrels.

Dec. 15. Market opened at 90c. and advanced sluggishly to 91 3-8c. In the afternoon it broke to 90 3-4c., rallied to 91 3-8c., fell off to 91c. and closed at 91 1-4c. bid. Carrying rates, Bradford, 30 to 35, Oil City, 25 to 30, New York, 30 to 40, Pittsburgh, 50c. Kane well gauge 94 barrels. Gantz well drilled three or four bits in the sand, the quantity of oil increased, and in the afternoon a small flow was made.

Dec. 16. Market opened steady at 91 1-4 and strengthened slowly during the first hour to 92 1-4. Towards the close values began to fall rapidly and touched bottom at the close at 90 7-8c. Kane well gauge 93 barrels. Anchor No. 5 at Kinzua, reported at 356 barrels. Gordon No. 2, Washington, makes a forty barrel flow, blowing out plugs that had been inserted after rig was burned. Gantz makes a flow of 20 barrels: still drilling. Several hundred feet of oil in the Gabby.

Dec. 17. Market weak and uninteresting. Opened with few sales at 90 7-8, advanced to 91 1-8, broke to 90 3-8 and closed weak at 90 1-2c. Carrying rates, Bradford, 35c., New York 50 to 60, Pittsburgh 40, Oil City 30. Wilcox, of New York, reported a heavy seller on account of S. V. White, of the Lackawanna syndicate, who gets rid of most of his bundle of long oil. Kane well gauge 92 barrels. Gantz well at Washington, made 40 barrels in 24 hours. Gabby well showing better. Residence of John A. Scott, at Findlay, O., destroyed by fire caused by natural gas used in a grate. Loss $15,000.

Dec. 18. Market extremely dull. Opened at 90 1-2, went down to 89 7-8 and closed at 90 1-8. Kane well gauge 95 barrels. Salvation Army appears at Olean. John Titus, who shot Officer McCleery at Bradford last month, sentenced to fine of $100 and 2 years and 6 months in Western Penitentiary.

Dec. 19. Market opened at 90 1-8 with a general disposition to sell manifest, dropped off to 89 3-8, remained steady during the greater part of the day at this point, but broke in the last half hour and closed weak with sales at 88 1-4. Kane well gauge 96 bbls. Anchor No. 5, Kinzua village, gauges 285 bbls. A three-old son of J. B Sherman, of the Star Iron Works, Karns City, burned to death by upsetting a kerosene lamp.

Dec. 20, Sunday. Gantz well, Washington, reported flowing 10 to 12 barrels every four hours.

Dec. 21. Market excited and forced downwards by heavy selling. Opened at 88, broke to 87 5-8, rallied for a moment to 88 1-8 and then went to pieces. It never stopped till 85 1-8 was reached and at this price the lowest sales of the day were made. It rallied several times during the day, encountering heavy blocks of oil in each instance. The highest point touched on the recovery was 86 3-4c. from which there was a rapid break in the last hour to 85 5-8c. At the close there were sales at 85 7-8c. Carrying rates, Bradford 30 and 35c., New York 25c. premium, Pittsburgh 50, Oil City 20c. Kane well gauge 96 barrels. New Opera House at Oil City opened with W. E. Sheridan in Louis XI. Culbertson, a young broker at Oil City, makes a big play on the market, buying heavily on the break and selling out on the rise.

Dec. 22. Market stronger. Opened with sales at 86 1-8, rallied to 86 3-8 and broke to 85 3-4. Under heavy New York buying advanced to 87 3-8, weakened to 86, and at the close firmed up to 87 1-4. Kane well gauge 95 barrels. Anchor No. 6, Kinzua village, reported through 30 feet of sand and showing for duster. Barnsdall well on Richardson lands, Kinzua village, in sand and showing light. Lappe & Co.'s well on the Ream farm, near Evans City, Butler county, shot in fourth sand with 200 quarts, and is a failure. Survey of gas line completed from McKeever well in Pinegrove township, Venango county, to Meadville. Tools fished out of Gordon No 2 at Washington and it makes a 30 barrel flow. Gordon No. 1 doing 65 barrels.

Dec. 23. Market opened with sales at 87 and 86 7-8c. and sold off rapidly to 86 5-8c., but rallied under a strong pressure of buyers and advanced to 87 5-8, fell off to 87c. and jumped to 88 1-4c. During the afternoon the quotations ranged between 87 1-8 and 87 3-4c. till near the close when a strong advance to 88 1-2c. occurred. At the close sales were made at 88 1-8 and 88 1-4c., and offerings were free at the latter price. Carrying rates, 20, 25 and 30c. Kane well reported 10 feet in the sand; gauge for last 24 hours 105 barrels. Fourteen hours drilling failed to increase its output. Barnsdall well and Anchor No. 6, at Kinzua village reported dry. Death of Lewis Loop, a resident of Indian Creek since 1849, and owner of the Loop oil farm. Gordon No 2 three bits in the "fifty foot" rock just below Gantz sand, flowed 25 barrels last evening and 40 this p. m.

Dec. 24. Market opened with sales at 88 1-2c. and from this point broke off sharply to 88c. There was a steady advance toward noon to 89c. and from this point

the strong buying in Oil City carried the market to 89 5-8c. Breaking off to 88 3-4c., rallied to 90c., fell off to 89 1-2c. and jumped to 90 1-2c. At the close sales were made at both 90 1-8 and 90 1-4c. Carrying rates, Bradford and Pittsburgh flat to 25c., New York 40 to 45, Oil City flat. Gordon No 2, Washington, through the pay streak; production for past 24 hours 80 barrels. Gantz well has another cave. Kane well gauge 108 barrels. Drill has been stopped in an inferior quality of sand. Culbertson creates another flurry in the market. Buying 800,000 barrels, the Oil City Exchange stop trading while he puts up the margins for his heavy purchases. All sorts of rumors afloat about his deal. Rules suspend in afternoon at various Exchanges and traders indulge in great hilarity.

Dec. 25, Christmas. No market. Owners of Kane well say it is 25 feet in sand and will be drilled no deeper. Last 24 hours gauge 105 barrels. Lost tools fished out of Gantz well which is drilled nearly through the sand Gordon No. 2 made 30 barrels last 12 hours; well is now in a finer and less productive sand. The Montgomery well showing oil at 2100 feet.

Dec. 26. All Exchanges closed. Death of George Riddell, formerly proprietor of Riddell House, Bradford, at Canisteo, N. Y. Explosion of glycerine in casing of a well on McManus farm, near Macksburg. Derrick torn to splinters, casing thrown completely out of well and 30 quarts frozen glycerine on derrick floor struck by anvil and exploded. No lives lost and but one man slightly injured.

Dec. 27, Sunday.

Dec. 28. Market opened at 90 3-4 after which a few sales were made at 91c. Then it broke rapidly to 89c., rallied to 89 5-8c., fell off to 88 1-2c., recovered to 89 1-2c. and dropped steadily to the close, when 88c. was firmly bid, with a few sales at the same figure. Gantz well, Washington county, making 27 barrels, will be tubed to pump. Gordon No. 1 pumping 54 and No. 2 flowing 37 barrels a day. Gabby rigged up to pump and doing 40 barrels. Kane well gauge 100 barrels.

Dec. 29. Market quiet. Opened at 88 and sagged off to 87 3-4, toward eleven o'clock braced up to 88 3-8, fell off again to 87 7-8, recovered to 88 1-2 early in the afternoon, broke on a Butler county well rumor to 87 1-2, gradually braced up to 88 1-4, fell off again to 88c. and closed at 88 1-4c. bid. Gantz well, Washington, makes 20 barrels. Gordon No. 2 is placed under lock and key. Kane well gauge 96 barrels. Explosion of natural gas at Kittanning Iron Co.'s No. 2 drilling well, three miles from Kittanning; seriously injures J. K. Myler, the contractor, and badly burns Charles T. Neale, Henry A. Colwell and five other men.

Dec. 30. Market sensitive and vibrating between narrow limits. Opened at 88 1-4, highest 88 3-8, lowest 87 1-4, closed at 87 1-2c. Kane well gauge 96 barrels. Death of J. C. Jackson at Hadley, Mercer county, aged forty years, who in 1875 with A. B. Walker, drilled one one of the first test wells in the Bradford field. Fire at Lombard, Ayre's & Co.'s refinery at Constable Hook, and explosion of large naptha tank. A coal and acid barge destroyed. Loss $20,000. Tubing put in Gantz well at Washington. Montgomery well drilling in rock below Gantz sand with 200 feet of oil in hole. Gantz sand in this well was unproductive. Vandergrift well on Weirich struck Gantz sand last night at 2140 feet, but showed no oil. Galey Bros. No. 2 on Taylor farm, Phillipsburg, shot with 80 quarts, and made a three minute flow over derrick. Estimated it will start at 40 barrels.

Dec. 31. Market opened at 87 1-8 with a weak feeling, firmed up to 87 3-4 and reacted to 87 3-8. Little business until quarter of three o'clock, when it jumped up to 88 1-2, fell off to 87 3-4 and closed firm at 88 1-4 bid. Carrying rates, Oil City 50c., New York 35, Pittsburgh and Bradford 40c. Kane well gauge 97 barrels. Washington shipments to close of year are: Gantz 1415, Gordon No. 1 8957, Gordon No. 2, 161. Total, 10,533 barrels. Gordon No. 2 made its largest flow this afternoon, putting nearly 50 barrels of oil into tank. General jollification in Exchanges on close of old year.

Early Use of Natural Gas for Fuel.

The honor of the discovery and first use of natural gas for illuminating purposes, belongs to Fredonia N. Y., where the first gas well in the United States was struck in 1821. For years Fredonia was remarkable as being the only town in the world lighted by natural gas. Thus natural gas antedates the discovery of oil by nearly forty years. According to J. D. Bryson, of New Castle, Pa., John Criswell, nearly fifty years ago drilled a well for salt water, near Centreville, in Butler county, and at a depth of 700 feet found a vein of salt water and gas. The gas caused the briny fluid to flow without pumping and it was further used by the observing owner in heating the vessel in which he manufactured his salt.

A gas well at Erie, Pa., attracted considerable attention in 1860, but the gas was in such small quantities that it was only used for illuminating purposes. A remarkable well was discovered at East Sandy, Venango county in the spring of 1869. It caught fire and burned for more than a year, all efforts to extinguish it proving unavailing. The roar of the burning gas could be heard for miles. Becoming partially exhausted the well was brought under control and its product taken away in pipes and used for fuel at pumping and drilling wells. The pressure at this well was so great that the gas was also utilized as a motive power, by being run directly into the engine.

The celebrated Newton gasser, on the A. H. Nelson farm, five miles northeast of Titusville, was struck May 11, 1872. It was 786 feet deep. Accurate calculations, as it was then possible to make, placed the flow of this well at 500,000 cubic feet a day, and the pressure at 350 pounds to the square inch. On the first day of August, 1872, gas from this well was conducted through a two inch pipe line to the city of Titusville. Soon afterwards, this was replaced by a 3 1-4 inch pipe and 250 firms and private families were supplied with natural gas for heating and lighting purposes. Henry Hinckley and A. R. Williams, of Titusville, were the organizers and promoters of this scheme which was among the very first, if not the first of the gas companies that have now become so important a factor in the industrial development of Northwestern Pennsylvania.

In June, 1872, a well was drilled two miles from Fairview, Butler county, to a depth of 1335 feet, and abandoned on account of the strong flow of gas and salt water. Two months after it had been abandoned, the gas had forced the water entirely out of the hole. A company was formed in the fall of 1872 to utilize the gas that was going to waste in such enormous quantities at this well. A 3 1-4 inch main was laid to Fairview and thence to Petrolia, where the gas was used to light the streets and heat the residences of both places. The Waugh gas well, near Millerstown, and the Burlin well, near Thompson's Corners, in Butler county, were the next prominent gassers. In 1874 the great Delamater No. 2, near St. Joe was discovered, and for some time was considered the greatest gasser in the world. Gas from this well was soon afterwards conducted to Sharpsburg, and used there in a rolling mill. The Siberian Iron Works also made use of natural gas at their mills at Leechburg, Armstrong county, in 1874. Experiments were here made with the new fuel in puddling furnaces, with excellent results.

AVERAGE DAILY RUNS BY DISTRICTS, INCLUDING MACKSBURG—1882–85.

	Bradford.	Allegany.	Cherry Grove.	Cooper.	Baltown.	Wardwell.	Baldridge.	Cogley.	Macksburg.	All Other Fields.	Total.
1882											
January	55,006	7,222	----	----	----	----	----	----	----	11,541	73,769
February	63,313	9,512	----	----	----	----	----	----	----	10,722	83,547
March	58,078	14,760	----	----	----	----	----	----	----	10,894	83,732
April	53,108	17,622	----	----	----	----	----	----	----	10,395	81,125
May	55,955	19,522	218	----	----	----	----	----	----	11,262	86,957
June	56,016	22,765	3,037	----	----	----	----	----	----	13,968	95,786
July	52,456	23,884	8,655	----	----	----	----	----	----	19,311	104,306
August	49,711	20,814	24,315	----	----	----	----	----	----	10,985	105,825
September	46,585	16,387	23,002	----	----	----	----	----	----	10,567	96,541
October	42,107	19,964	9,363	120	----	----	----	----	----	14,286	85,840
November	41,404	16,993	4,886	294	----	----	----	----	----	10,012	74,589
December	39,580	14,020	3,180	558	87	----	----	----	----	14,993	72,419
1883.											
January	36,487	14,106	3,313	1,632	334	----	----	----	----	8,893	65,125
February	38,481	13,154	2,954	1,475	332	----	----	----	----	8,812	65,208
March	37,754	12,619	2,706	1,737	368	----	----	----	----	9,220	64,404
April	38,810	13,742	2,604	3,802	840	----	----	----	----	9,409	69,207
May	39,039	13,793	2,207	3,829	952	----	----	----	----	9,625	69,445
June	38,614	13,499	2,215	4,199	1,961	----	----	----	----	9,955	70,443
July	36,489	12,381	1,891	3,467	1,944	----	----	----	----	9 456	65,628
August	37,165	12,743	1,935	3,166	3,078	----	----	----	----	10,790	68,877
September	35,894	12,358	1,612	3,200	3,723	----	----	----	----	9 423	66,210
October	35,654	12,757	1,312	3,314	4 298	----	----	----	----	10,314	67,649
November	34,516	12,332	1,000	3,251	3,807	----	----	----	----	10,285	65,281
December	32,650	11,752	1 061	2,876	3,766	----	----	----	----	10,725	62,830
1884.											
January	31,020	11,018	767	2,908	2,808	----	----	----	86	9,657	58,264
February	33,987	12,025	968	3,743	2,816	----	----	----	51	11,134	64,624
March	33,049	11,777	1.001	4,631	2,813	----	----	----	86	11,319	64,676
April	34,370	12,261	1,039	4,229	2,399	475	844	----	113	10,176	65,906
May	34,946	12,193	968	3 468	2,260	1,015	1,061	----	136	10,777	66,824
June	35,701	11,672	845	2,985	2,250	2,042	969	----	211	10,886	67,561
July	34,718	11,114	523	2,476	2,471	4,277	889	----	249	10,234	66,951
August	33,782	10,384	663	2,046	2,189	6,483	843	----	258	10,6 4	67,254
September	33,449	9,989	653	2,155	2,115	4,056	2,644	----	334	10,891	66,286
October	31,500	8,802	446	1,811	1,781	2,201	6,034	----	350	10,489	63,414
November	29,552	8,642	423	1,302	1,401	1,346	9,493	----	431	9,592	62,182
December	30,632	8,193	407	1,246	1,189	979	8,730	----	315	10,367	62,058
1885.											
January	27,254	7,442	360	1,214	810	977	6,199	----	384	9,034	53,674
February	27,480	7,696	327	987	910	663	7,349	----	637	9,564	55,613
March	26,833	7,342	373	867	954	605	7,239	----	873	9,785	54,971
April	29,557	7,738	299	1,114	775	527	9,333	----	1,189	11,019	61,551
May	28,443	7,467	343	1,053	902	722	7,488	127	1,557	10,879	58,981
June	30,662	7,680	439	1,000	1,044	764	5,905	609	2,233	11,983	62,319
July	30,657	7,363	467	906	1,032	647	3,856	1 220	2,441	10,283	59,872
August	29,291	7,102	363	923	930	----	2,268	2,115	2,382	12,731	58 105
September	30,151	6,647	312	918	944	----	2,721	3,244	2,270	13,870	60,337
October	30,828	7,081	428	777	925	----	1,898	4,959	2,053	14,194	63,123
November	29,117	6,667	303	707	1,030	----	1,469	5,416	2,031	14,162	60,902
December	30,376	6,738	442	749	1,182	----	1,420	5,241	1,971	15,150	63,269

THE Bradstreet Gas and Fuel Co. has been incorporated in New York State. Capital Stock, $1,000,000, and principal office at New York City.

TERRITORY has been leased along the Hudson river, at Catskill, Knowersville and Kingston, by Armstrong, Phillips & Co., who are desirous of testing this region for oil and natural gas.

THE Northwestern Natural Gas Company filed an application for a charter at Harrisburg on the 28th of December. The Company will deal in and transport natural gas. The capital stock is $500,000. It is intended to operate in the counties of Venango, Crawford, Erie, Mercer, Lawrence, Beaver, Butler, Armstrong, Jefferson, Clarion, McKean, Forest, Warren, Elk, Potter and Cameron; and it is further intended to supply to consumers at Franklin, Meadville, Titusville, Erie, Corry, Mercer, Greenville, Sharon, New Castle, Beaver, Butler, Kittanning, Clarion, Edenburg, Brookville, Reynoldsville, Tionesta, Warren, Tidioute, Bradford, Port Allegany, Coudersport, Emporium, Ridgway and other towns. The corporators and the amount each has invested are as follows; Daniel O'Day, Buffalo, $100,000; Wm. T. Scheide, Titusville, $100,000; Joseph Seep, Titusville, $50,000; E. Strong, Jamestown, N. Y., $75,000; R. W. Porterfield, Emlenton, $75,000, and Calvin N. Payne, Titusville, $50,000.

SUMMARY of the Statements of the National Transit Company for December and November, 1885:

	DECEMBER. Barrels.	NOVEMBER. Barrels.
Receipts from all sources	1,674,419.48	1,546,509 79
Deliveries	1,914,345 12	1,637,288.63
Gross stocks end of month	35,134,703.30	35,489,129.86
Sediment and surplus	3,005,518.48	3,108,008.75
Total liabilities end of month	32,129,184 82	32,381,121.11
Outstanding acceptances	27,838,035.03	28,191,569.88
Credit balances	4,291,149 79	4,189.551.23

SUMMARY of the Statement of the Tidewater Pipe Company, Limited, for December, 1885:

		Barrels.
Quantity of crude petroleum in custody at beginning of December		1,352,635.70
Quantity of crude petroleum at close of Dec.	1,470,714.96	
Less sediment and surplus	127,3 0.91	
		1,343 404.05
Receipts during December		193 088.99
Deliveries during December—to refiners	200,470 15	
" " " to other parties	--------	
		200,470 15
Outstanding certificates, accepted orders, etc.		906,000 00
Credit balances		437,404.05
Total liabilities, December 31, 1885		1,343,404.05

NOVEMBER SUMMARY.

		Barrels.
Quantity of crude petroleum in custody at beginning of November		1,351,483.90
Quantity of crude petroleum at close of Nov.	1,476.502.23	
Less sediment and surplus	123,866.53	
		1,352,935.70
Receipts during November		186,777.99
Deliveries during November—to refiners	182,750.35	
" " " to other parties	--------	182,750.35
Outstanding certificates accepted orders, etc.		960,000.00
Credit balances		392,635.70
Total liabilities November 30, 1885		1,352,635.70

WHITE SAND POOLS.

CHERRY GROVE, COOPER AND BALLTOWN PIPE LINE RUNS TO DECEMBER 31, 1885.

1882.	Ch'y Gr've. Bbls.	Cooper. Bbls.	Balltown. Bbls.	Total. Bbls.	Daily Av'ge. Bbls.
May	6,765	.....	.....	6,765	218
June	91,102	.....	.....	91.102	3,035
July	268,294	.....	.....	268,294	8,655
August	753,752	.....	.....	753,752	24,317
September	690,072	.....	.....	690,072	23,0 2
October	290,246	3,712	.....	293,958	9,483
November	146 587	8,810	.....	155,397	5, 80
December	98,582	17 342	2,700	118,624	3,827
Total	2,345,400	29,864	2,700	2,377,964	9,706
1883					
January	02,705	50,590	10,349	162,644	5,279
February	82,718	41,291	9,312	33,321	4.761
March	83,876	53,845	11,418	149,139	4,811
April	78,130	114,064	25,214	217 408	7,247
May	68,406	118,682	29,5 1	216,589	6.987
June	66,453	125,988	58,839	251,280	8 376
July	58,619	107,465	60,278	226,362	7,302
August	59,979	98,151	95,405	253,535	8.178
September	48,553	96,024	11 ,700	256,077	8,536
October	40,677	102,748	133.248	27 ,673	8,925
ovember	32,711	97,516	114 2 33	244,190	8,150
Decembar	32,885	89,161	116,747	2 8,796	7,703
Total	755,512	1,095,558	776,244	2,627,314	7,198
1884					
January	23,787	90,145	87,061	200,993	6,484
February	28,062	108,543	81,649	218,254	7,526
Ma ch	31,020	143,571	87 193	261,784	8,445
April	31,191	226,850	71,989	230, 40	7,668
May	30,010	107 514	70,069	207,593	6,696
June	25,318	89.554	67,508	182,410	6 080
July	16,206	76,762	76,601	169,569	5,470
August	20,615	63,415	67 883	151,913	4,900
eptember	19,590	64,648	63,4 3	147, 91	4.923
Oc'ober	13,824	56,151	55,211	125.186	4,038
November	12 689	39,965	42,025	93,779	3,126
December	12,600	38,621	36,864	88.085	2,841
Total	264,942	1,004,849	8 7,506	2,077,297	5,676
1885.					
January	11,158	37,635	25,123	73,916	2,384
February	9,151	27,642	25.469	62,262	2,224
March	11,558	25,866	29,589	68,013	2,194
April	8,982	33,420	23,246	65,648	2,188
May	10,639	32,599	27,978	71,2 6	2,297
June	13,181	29,998	31.340	74 519	2.484
July	11,478	28,095	31,990	71,563	2,105
August	11,247	28,603	28,828	68,678	2,216
September	9 367	27,531	28,315	65,213	2,174
October	13,269	24,104	28,677	66,050	2, 31
November	9,078	21,924	30,909	61,211	2,040
December	13,701	23,207	36,634	73,542	2,572
Total Dec. 31, '85	3,501,663	2,471,195	1,934,548	7,907,406	5,897

The above table gives the statistical history of the Cherry Grove, Cooper and Balltown fields from the time oil was first run in each district up to December 31, 1885. Cherry Grove has produced 3,501,663 barrels, Cooper 2,471,195, and Balltown 1,943,54 barrels. The daily average runs from the three fields during December were 2,372 barrels, an increase of 332 barrels over the November figures.

The daily average runs from the Cooper and Henry's Mills section for December were 749 barrels, for November 707 barrels, for October 777 barrels, for September 918 barrels, for August 923 barrels, and for July 906 barrels.

The Balltown field had a daily average of 1182 bbls. in December, 1030 bls. in November, 925 bbls. in October, 944 barrels in September and 930 in August. Cherry Grove averaged 442 barrels in December, 303 barrels in November and 428 barrels during October against 312 barrels in September, 363 in August, 467 in July, and 439 in June.

The total pipe line runs from the three fields since oil was first run from Cherry Grove, in May, 1882, up to December 31, 1885, inclusive, has been 7,907,406 barrels, a total daily average of 5,897 barrels. The greatest average runs from the Cherry Grove district were in August, 1882, when they reached 24,315 barrels.

BALDRIDGE AND COGLEY RUN.

The runs from Baldridge since April 1, 1884, and from the Cogley district since May 15, 1885, have been as follows:

Month.	Baldridge Runs.	Daily Average
April	25 325	844
May	32,885	1,061
June	29,070	969
July	27,545	889
August	26,134	843
September	79,324	2,644
October	187,068	6,034
November	281,846	9,493
December	270,644	8,730
January, 1885	192,180	6,199
February	205,774	7,349
March	220,398	7,239
April	290,005	9,333
May	232,138	7,488
June	105,774	5,905
July	119,531	3,856
August	70,318	2,268
September	60,637	2,021
October	58,834	1,898
November	44,081	1,469
December	44,011	1,420

	Cogley. Runs.	Daily Average.
May	3,927	127
June	18,266	609
July	37,848	1,220
August	65,570	2,115
September	97,325	3,244
October	153,110	4,939
November	162,476	5,416
December	162,479	5,241

For the eight months ending with December 31, the Cogley oil field has produced 701,001 barrels of oil, a daily average of 3,048 barrels. Previous to May 15th Cogley oil was included with the general runs of the old Clarion field. The daily average for December shows a decrease of 175 barrels a day from that of November. November increased 477 barrels over October, while October increased its runs 1,695 barrels a day over September. The Thorn Creek and Baldridge runs averaged 1,420 barrels a day in December, 1,469 barrels in November, 1,898 barrels in October and 2,021 in September. This is exclusive of the runs by the Pittsburgh Pipe Lines, which take about 700 barrels a day from the St. Joe and Thorn Creek districts.

The Baldridge and Thorn Creek runs were 962,801 barrels, for nine months of 1884, a daily average of 3,501 barrels. For 1885, the total runs by both pipe lines were 1,813,020 barrels, a daily average of 4,967.

The Average Price of Crude.

The following table gives the average price of crude certificates, on the floor of the Bradford Oil Exchange, since March 1, 1879:

Month.	1879	1880	1881	1882	1883	1884	1885
January		110 1-5	95	83	92¾	111⅓	70¾
February		103¼	89¼	85¼	101	104⅜	73⅛
March	86	89	82⅞	80⅞	97½	100⅛	80⅜
April	78⅜	76⅝	84⅜	78¼	92⅜	91	78⅞
May	73½	80¼	81½	70	99⅜	85½	79⅜
June	68⅜	100¼	81	54½	117¼	68¾	81¼
July	69⅞	101¼	76½	57⅝	108	63½	96⅜
August	67¼	03¼	78⅜	58⅜	108⅜	81 1-5	100⅜
September	69¼	9 ½	92¼	71½	112½	78	100¾
October	88⅛	96¾	92¾	93⅝	111⅛	71	105½
November	105⅜	91¾	82⅛	114¾	114 4-5	72½	104⅜
December	113¼	92⅜	83¾	95¼	114⅛	74⅜	89⅝

Macksburg Pipe Line Runs.

The total pipe-line runs from the Macksburg field for the year 1884 were 80,081 barrels. Adding the oil shipped by the West Virginia Transportation Co., 3,500 barrels, the total receipts from the field were 83,581 barrels, a daily average of 229 barrels. The gross runs of the Macksburg Pipe Line since January 1, have been as follows:

Month.	Total Runs.	Daily Average.
January	11,894	384
February	20,625	637
March	27,067	873
April	35,681	1,189
May	48,258	1 557
June	66,995	2,233
July	75,673	2,441
August	73,858	23,82
September	68,110	2,270
October	63,619	2,053
November	60,928	2,031
December	61,113	1,971
Total for 1885	613,821	1,682

Runs, Shipments and Stocks.

RUNS OR RECEIPTS.

PIPE LINE.	DECEMBER, 1885.	NOVEMBER, 1885.
National Transit Co	1,674,419.48	1,546,509.79
Tidewater	193,088.99	186,777.99
Octave Oil Co	3,527 99	3,406.00
Charley Run	------	------
Shaffer Run	660.50	660.50
Franklin (limited)	7,529.11	7,367.51
Pittsburgh Pipe Line	21,016.80	21,410.26
Total	1,900,242.87	1,766,132.05
Daily average	61,298.16	58,871.07

In the above runs only the oil received by the National Transit Co. directly from the wells, is included.

DELIVERIES OR SHIPMENTS.

PIPE LINE.	DECEMBER, 1885.	NOVEMBER, 1885
National Transit Co	1,914,345.12	1,637,288.63
Tidewater	200,470.15	182,750.35
Octave Oil Co	3,972.45	3 104 00
Charley Run	------	------
Shaffer Run	2,651.00	2,662.30
Franklin (limited)	3,272 91	9 529.08
Pittsburgh Pipe Line	13,541.60	14,510.13
Total	2,138,253.23	1,849,844.49
Daily average shipments	68,975.91	61,661.48,

In the above shipments only the oil delivered to refiners is included.

Daily excess of shipments over runs, December	7,677.75
Daily excess of shipments over runs, November	2,790.41
Daily excess of shipments over runs, October	5,064 07
Daily excess of shipments over runs, September	13,138.62
Daily excess of shipments over runs, August	11,099.01
Daily excess of shipments over runs, July	5,959.01
Daily excess of shipments over runs, June	7,992.05
Daily excess of shipments over runs, May	10,502.60
Daily excess of shipments over runs, April	494.04
Daily excess of shipments over runs, March	6,762.92
Daily excess of shipments over runs, February, 1885	9,483.63
Daily excess of shipments over runs, January, 1885	4,893.51
Daily excess of shipments over runs, December, 1884	15,064.36
Daily excess of shipments over runs, November, 1884	7,513.09
Daily excess of shipments over runs, October, 1884	17,901.36
Daily excess of shipments over runs, September, 1884	10,439.21
Daily excess of runs over shipments, August, 1884	2,593.82
Daily excess of runs over shipments, July, 1884	10,532 22
Daily excess of runs over shipments, June, 1884	6,443.56
Daily excess of runs over shipments, May, 1884	10,239.88
Daily excess of runs over shipments, April, 1884	11,020 89
Daily excess of runs over shipments, March, 1884	4,144.98
Daily excess of runs over shipments, February, 1884	5,153.94
Daily excess of runs over shipments, January, 1884	3,774.23

NET STOCKS.

PIPE LINE.	DECEMBER 31, 1885.	NOVEMBER 30, 1885.
National Transit Co	32,129,184.82	32,381,121.11
Tidewater	1,343,404.05	1,352,635.70
Octave Oil Co	3,822 97	2,807,00
Charley Run	3'5 00	215.00
Shaffer Run	22,201.22	22,201.22
Franklin (limited)	32,632.34	28,378.14
Pittsburgh Pipe Line	7,475 20	6,900.13
Total	33,539,037 60	33,794,358.30
Stocks decreased December		255,320.70
Stocks decreased November		109,185.52
Stocks decreased October		184,393 91
Stocks decreased September		408,862 12
Stocks decreased August		390,529 99
Stocks decreased July		215,947.71
Stocks decreased June		356,849 49
Stocks decreased May		565.252 48
Stocks decreased April		42,525.72
Stocks decreased March		248,900 89
Stocks decreased February, 1885		376,306.01
Stocks decreased January, 1885		179,780.27
Stocks decreased December, 1884		984,300 33
Stocks decreased November, 1884		266,552.87
Stocks decreased October, 1884		616,976 88
Stocks decreased September, 1884		345,281.52
Stocks increased August, 1884		97,092 86
Stocks increased July, 1884		323,063.12
Stocks increased June, 1884		19 ,320.03
Stocks increased May, 1884		322,981.73
Stocks increased April, 1884		1,945,919 83
Stocks increased March, 1884		164.711 39
Stocks increased February, 1884		206,984.61
Stocks increased January, 1884		119,365.56

	RECEIPTS.	DELIVERIES.
Daily average December	61,298	68,976
Daily average November	58,871	61,661
Daily average October	61,,070	66,124
Daily average September	58067	71,206
Daily average August	55,001	66,100
Daily average July	57,293	63,252
Daily average June	59,901	67,893
Daily average May	57,135	67,637
Daily average April	60,362	60,856
Daily average March	54,098	60,831
Daily average February,	54,976	67,667
Daily average January, 1885	53,290	58,188
Daily average December 1884	61,743	76,808
Daily average November	61,751	69,264
Daily average October	63 064	80,966
Daily average September	65,952	76.391
Daily average August	66,996	64,402
Daily average July	66,702	56,170
Daily average June	67,350	60,907
Daily average May	66,688	56,448
Daily average April	65 794	54,773
Daily average March	64,590	6 ,445
Daily average February	64,573	59,420
Daily average January, 1884	58,178	54,404

Progress of Russian Petroleum in 1885.

The Shipping and Commercial List in its review of the petroleum trade for 1885, says: The development of the petroleum industry of Russia has made rapid strides during the past year, and it is useless to longer ignore the fact that the product of Baku has already become a formidable competitor, as well as a dangerous rival of American oil. The Russian Government, anxious to develop the natural resources of its territory, has afforded every aid in its power to foster the growth of this industry, and friendly European powers have found it to their political advantage to assist these efforts, by granting facilities for increasing the traffic wherever they have been required. In nearly all the distributing centres of Europe this product has found its way, and in England alone the imports during the past year are reported to have amounted to nearly 100,000 bbls. The most important advantage has been gained in the Levant on account of its proximity to the source of production, the easy and less expensive means of transportation, and consequent lower cost to consumers, which seems in a measure, to have outweighed the superior quality of our own product. Two years ago American oil supplied three-quarters of the consumption of the Levant, this year Russia has usurped our position, and our shipments have not supplied much more than one-quarter of the estimated consumption. Then again the shipments of Russian oil to Northern Europe have been materially increased by the steady development of improved methods of transportation. Suitable and efficient vessels fitted with tanks have been constructed that ply from Baku, through the Caspian Sea, and up the Volga River to Tzaritzen, which is the centre of an important railroad system by which it is transported to Riga and St. Petersburgh, and from thence distributed by water routes to the Northern ports of Europe. Notwithstanding the expense of this long transit, it is a fact that Russian oil has been sold in Hamburg for less than the American product, but at a price that did not cover its cost, the sacrifice being readily accepted with the hope of gaining a foothold in that important market. Furthermore, an entrance to Central Europe is being sought, first by the construction of a pipe line from Baku to Batoum on the Black Sea, from whence the product will be taken by a line of tank steamers that are now being built, up the Danube River as far as it is navigable, and probably to the important town of Lintz, in Upper Austria, which is centrally situated and can be easily made an important distributing centre. From these facts it can be readily observed that Russia is steadily and successfully working out the problem of transportation and distribution, but thus far the important question of quality has not yielded such satisfactory results, and it is here that American oil still carries the palm, and must continue to do so, so long as the high standard of "water white" is maintained. Russia does not lack scientfic knowledge of the processes of refining, nor are her refiners altogether without experience, for they have tried many costly experiments in the progress of their investigations, and efforts to attain the coveted standard of American oil, but the trouble lies in the refractory quality of the crude product, which is said to possess the qualities of a lubricant rather than of an illuminator. This seems to have been acknowledged from the fact that large factories have been erected at Batoum, Riga and Hamburg with the object of reducing the crude material to a lubricating product. The fact, nevertheless, remains that for illuminating purposes the consumption of Russian oil is steadily increasing and closely competing for the trade that America has so long held without a rival. Not content with fair rivalry, our brands have been imitated and Russian oil packed in cases that in size, shape and appearance are an exact counterpart of our own, has been shipped to the far East in the efforts to undermine our trade.

THE PETROLEUM AGE,

DEVOTED TO THE

INTERESTS OF THE PETROLEUM TRADE.

PUBLISHED MONTHLY BY

McMULLEN, SNELL & ARMOR,

BRADFORD, PA.

W. C. ARMOR, Manager.

J. C. McMULLEN. A. L. SNELL.

Subscription Price (Postpaid) ..... $3.00 per Year, in Advance
Subscription Price (Postpaid) ..... $1.75 per 6 months in Advance
Foreign Subscription ..... $3.50 per Year in Advance
Single Numbers ..... 30 Cents
The Bradford office of the AGE is in the Producers' Exchange Building.

THE PRODUCING REGION.

At the beginning of December there were 283 new rigs and 38[illegible] drilling wells in the entire region. Out of this total 672, 355 wells were completed, which on the last day of the month were estimated to have had a daily output of 3886 barrels. The number of dry holes was 45, leaving 310 productive wells, with an average yield of 12 1-2 barrels. During November, the entire region completed 335 productive wells and 53 dry holes, and the average of the new wells November 30 was estimated at 13 1-2 barrels. At the close of December there were 249 new rigs, 109 old rigs and 315 drilling wells, in the whole field. The situation in the field remained practically unchanged throughout the month. There was nothing new developed at Kane or Kinzua village, in the line of additional territory. The Kane well improved to over 100 barrels a day by deeper drilling but while several of the other ventures in that vicinity reached the sand, nothing definite was known in regard to their true condition before the dawn of the new year.

The December report for 1884 showed 72 completed wells, including 14 dry holes, new production 5596 barrels. The summary of operations at the close of the month was 54 new rigs, 161 old rigs and 101 drilling wells, a total of 316. The shut-down movement, at that time still in force, with the excitement over the gusher territory at Thorn Creek, and the low range of prices in the crude market, combined to check active operations in all sections of the field, other than the prolific pool in Butler county.

ALLEGANY FIELD.

Outside of Clarksville and Wirt in the Allegany field, operators are showing a strong disinclination to drill two to five barrel territory on a low priced market, and even these centres of activity show a sensible checking up in the amount of work under way. The connection between the Clarksville addition and the old Nile section, has received fresh encouragement by the results of P. M. Shannon & Co.'s experiment with the old Dow duster on lot 54, in Wirt township. The expenditure of a heavy charge of nitro glycerine made a fair well out of this seeming dry hole. A mile north of this, the same firm has recently completed a four barrel producer on lot 55, and the union of the two districts on a narrow strip of undersized territory is at last considered to have been realized.

Fifty-five wells were completed in the Allegany field in December and among these were four dry holes. Two, that of Barnum & Co., on lot 136, Willing, and J. B. Bradley & Co., near Westfield, Tioga county, Pa., are beyond the territorial limits of the field proper. The average of the new wells is about the same as last month, viz.: 5 1-2 barrels. On the last day of December there were 32 new rigs, 36 old rigs and 62 drilling wells in this field, a total of 130 and a net decrease of 21 from the November figures. The pipe line runs from Allegany averaged 6738 bbls a day in December, 6667 bbls in November, 7081 bbls in October, and 6647 bbls in September.

THE BRADFORD FIELD.

In the Bradford field the new work is confined wholly within old boundary lines, and in numerous instances completely drills up spare locations on the leases. The only completed well that denotes an extension of the present territory, is that of Smiley & Howe, on the Boss farm, near the western borders of the city of Bradford. It had a thin stratum of sand rock, and is producing three barrels a day. Its calibre is too small to insure very active leasing in that locality until the market again passes the dollar line. The Columbia Oil Co. discovered a dry hole on the Cranmer farm, in the second sand territory, up the West Branch. On warrant 3712, McKean county, C. C. Joy & Co. drilled a duster in their attempt to find a northeast extension of the Kinzua village development or open up an outlet to the southwest for the Chapin pool, on Sugar Run. The Thompson & Veazie experiment northeast of Olean, had a fair looking sand, with a small showing of oil, and is classed among the failures. Two wells are to be sunk in the same region by Curtis & Co. and H. Blakeslee, who take the McCormick well, which is now doing about two barrels a day, as a presage of something better in the way of productive territory.

Wolfe & Wilcox have a test well about three miles southwest of Port Allegany, which was 1500 feet deep on January 1st, and through the rocks in which they expected to find the oleaginous fluid.

The Bradford field completed 63 wells during December with a production of 459 barrels. Three of these were dry. On the last day of the month, there were 37 new rigs, 31 old rigs and 61 drilling wells in this field, a total of 129, and a decrease of 28 from the total at the close of November. The December pipe line runs averaged 30,376, November 29,117, October 30,828, and September 30,151 barrels a day.

WARREN & FOREST.

The Middle Field, which includes the three white sand pools of Cherry Grove, Balltown and Cooper, the close pebble district of Stoneham, Clarendon and Tiona, together with Kinzua village and the budding development at Kane, completed 96 wells in December, and added 991 barrels a day to the new production. Seven dusters are recorded within its borders. This is a decrease of 6 wells and 4 dry holes, and an increase of 67 barrels production as compared with the November estimate. On the last day of the old year there were 95 new rigs up and building, 12 old rigs that had been standing thirty days and longer, and 84 drilling wells. The total is an increase of 10 over the figures at the close of November. A glance at the detailed report will show that this increase is due to the new Kane district and the older pool at Grand Valley.

Since the first of the month, active operations in the vicinity of the Craig & Cappeau well, at Kane, have been somewhat set back by three important failures, along what was considered a fair belt line for the prospective field. The Murphy well, near the southeast corner of warrant 3778, was pronounced dry soon after New Years. It was followed by the Associated Producer's Co.'s failure near the centre of the south line of warrant 3781, and a few days later by the well of Tennent, Stowe, Howe & Lavens on lot 424. From the first well on the extreme southwest, to the last named on the northeast,

is a distance of five miles. The new field now appears hemmed in on all sides. The Tennent test, which is a big gasser, with the two gas wells near Kane are on the north and northeast. The three wells of Roy & Archer, warrant 3788, with the Gilmore & Co. duster on 3785, bound it on the east. South and west, are the dusters of the Emery Oil Co., warrant 3777 and the failures of Murphy and the Associated Producer's Co. On the last day of December, there were 17 rigs up and building, and 15 wells drilling in the new section, and the Craig & Cappeau the only producing well, was flowing 96 barrels a day.

At Kinzua village, the Anchor Oil Co.'s No. 5, started off at 38 barrels an hour on the first of December and its first 24 hours production was rated at 378 barrels. Later on, Anchor No. 6, in the southeast corner of the warrant, and about fifty rods directly south of No 1, was drilled through the sand and pronounced a failure. T. N. Barnsdall's venture, on warrant 3724, 240 rods southeast of Anchor No. 1 was likewise a failure. B. F. Brown completed a good well on the English farm which started at above one hundred barrels. Since the first of the month Collins & Phillips have finished a couple of wells on the southwest edge of the field, which are practically dry. One of them has a heavy supply of salt water which the owners are trying to exhaust by the use of the sucker-rods.

The Clarendon-Tiona development has been extended a long distance to the northeast, by the success of S. B. Logan & Co 's venture on lot 41. The well is a small affair, but proves that the close pebble rock of the district has a wider extent in this direction than was before thought probable. The low cost of drilling leaves a fair margin of profit for the operator in this kind of territory, when a premium of ten cents a barrel, brings crude oil close to the dollar figure. The Columbia Oil Co.'s last well on lot 464 near Stoneham, started off at about 100 barrels without shooting, and is a remarkably good well for this part of the field. Booth Bros. got another good well on lot 83 and Doc. Jenkins also secured a fair producer on lot 81. On 74, Fertig, McKinney & Co. completed a well, which, though admitted to have had a a good showing for a small producer, has been rated among the dusters. This section of the Middle Field shows a large falling off in the drilling wells. This is owing partly to the decline in the market and partly to the approach of cold weather, many producers prefering to shut down drilling operations until the advent of warmer weather.

The Cooper district is very quiet. Jos. Clinton finished a ten barrel well on the Lacy lands, lot 397, while Fertig & Henne found a well of similar calibre, in the neighborhood of the old Green & Darling wells. Shank & Stewart's No. 12, on lot 407, started at 50 barrels. The Balltown field has been extended a little to the southwest, by the last two wells of May, Kelley & Grandin on warrant 5215, which started at 400 and 300 barrels respectively. On the northeast drilling is being checked up somewhat, prospectors outside the limits of N. F. Clark's fine property on warrant 3195, having met with very poor success.

Considerable activity prevails at Grand Valley, in the southwest part of Warren county. The drilling is shallow, and though the sand is very irregular, some good pumping wells have been developed. No large area of territory seems probable in this out of the way district, which has been known as a producing centre for many years. The well on the Rouse farm, near Pittsfield, has excited the inhabitants of that locality, and some astonishing statements have been made in regard to the venture. It has been marked dry in the detailed monthly reports.

THE LOWER COUNTRY.

The lower country totals show a large decline for December, consequent upon decreased operations in old sections, but most noticeably in the Cogley district. The month closed with 26 fewer wells completed and a drop of 735 barrels in the new production as compared with the figures of the preceding month. In work under way there is a decline of 18 rigs and 51 drilling wells. In Venango county, the greatest interest centres at Red Valley, as the new district between Freedom and Rockland Station on the Allegheny Valley R. R., is called. Operations are quite active here within a limited area, and the field as yet, has shown but few indications of any considerable extension for the future. The pool at present appears cut off on the north by numerous dry holes. The Fisher Oil Co. recently completed their second duster on the David Jolly farm, and Leckey & Co. are credited with the same number of failures, one on the James Jolly and the other drilled several years ago, on the D. Hetzler farm. Farther to the north, the celebrated Crawford, of Mt. Nebo fame, completed a duster in December on the Reichart farm. But H. P. Boyd & Co., directly east of three of the above mentioned dry holes, secured a good producer on the John Hetzler farm, and the field now looks favorable for an extension northeasterly, in the direction of the old dry hole on the J. W. Campbell property. On the southwest, the farthest producing well is that of the Forest Oil Co., on Shulls Run, which is rated at six barrels. Blakeslee & Heydrick developed a dry hole on the Johnson farm, near the river in their efforts to discover a southwesterly bearing for the oil producing rock. A line of dry holes on the east and the failure of several experiments southward on the opposite side of the Allegheny, seem to have effectually hemmed in the field in these two directions. Several good wells to the west have aroused hopes that more oil will be discovered on the contiguous lands, and leases are being looked after beyond the western borders of the field. This little district completed 19 wells in December, 8 of which were dry. The only other section of Venango county which attracts any attention is that of Tarkill, where Taylor, Torrey & Murphy have one well producing oil, another gas, and two wells drilling.

The Cogley field which has been the finest one drilled during the year 1885, about maintained its production during December but the bordering lines were more clearly established by the vibration of the drill. The average daily pipe line runs which fairly represent the production on account of the small amount of tankage used at wells, were 4939 barrels in October, 5416 in November and 5241 in December. The large number of wells completed in December had much to do with maintaining the daily yield of the field. The count made by AGE representatives shows that 66 wells were completed, having an estimated new production on the last day of the month of 1562 barrels. Nine of the wells finished are numbered with the dusters. In the month of November 84 wells were added to the list, having an estimated production at the close of that month of 2015 barrels. Six of this number came in dry. No more attempts are likely to be made to find an outlet for the belt to the southwest, since the completion of two dry holes on the R. Weaver farm by Short, Chambers & Whitehill and Mortimer & Co. A short distance southwest of Kossuth, on the Exley farm, Frederick & Hatch found quite a heavy gasser. It is situated between the

western edge of the belt and the gasser on the the Mike Starr farm. A half mile southwest of the Pike, Shaffer & Sheasley completed a well on the Hockman farm, which promised to start at 50 barrels. It attracted some attention on account of being situated near small wells and dry holes. Patterson, Leedom & Hayes ventured too far north on the Shippen tract, and found a dry hole. On the Widow Deitrich farm, John M. Deitrich & Co. secured a duster close to the western edge of the district, but inside of the lines which enclose producing wells. The figures which showed the volume of work under way in the Cogley district on the first of the new year helped to give a bullish coloring to the monthly report. At that time there were 32 new rigs, 11 old ones and 35 wells drilling in Clarion county, which includes the Cogley section, making a total of 78. On the last day of November there were 35 new rigs, 12 old rigs and 70 wells drilling, a total of 117. The bulk of the new work is now found along the western side of the belt and towards its northern end. At the beginning of this year the situation in the Cogley field may be summed up as follows: Its boundary lines are established, the volume of new operations is largely reduced, and the field has passed the summit of its production. Its favors were widely distributed and nearly all who urged the drill within its border lines have made money. At various points in Clarion county prospectors are on the alert for crude. Elder Bros. well at the month of Rattlesnake Run, along the Allegheny river below Parker, filled up 500 feet with oil after being torpedoed. Wolf & Kugler are drilling at Scotch Hill, and other parties are studying the geological structure of the country about Cooksburg. Operators are reported to be leasing lands along Blyson's Run, a stream emptying into the Clarion river about five and a half miles northeast of Clarion.

The wildcatter is still abroad in the old fields of Butler and Armstrong, but with a single exception all his endeavors were fruitless in December. The Fisher Oil Co. failed to find any oil in their well on the Thompson farm in Middlesex township, on a 22° line southwest of Herrmann Station. It was located near the old well sunk on the Mahan farm years ago by Hart & Conkle. Craig & Cappeau have a well drilling and a rig up in this section. The Pittsburgh Pipe Lines have laid a line from Mars' Station on the Pittsburgh & Western R. R., to Clark & Puzzy's small well on the Belford farm. Lappe & Co.'s well on the Behm farm about two miles up the P. & W. R. R. from Callery Junction, encountered 57 feet of fourth sand at a depth of 1590 feet. The rock was close and hard but did not show oil when heavily torpedoed. There were indications of crude in the hundred foot. The well had sufficient gas to throw the salt water out of the hole but failed to produce oil in paying quantities from all the sands. It was located on a line southwest from Baldridge. The new strike of McJunken & Co. on the Feld farm north of the Painter Bros. well at Reibold Station, has caused several wells to be started in that section. Phillips Bros. continue their search after a pool east of Thorn Creek and are now following up rock indications from their small well on the Barr farm. They found a dry hole on the Witt farm in Clearfield township, several miles northeast of the Leidecker well on Rough Run.

The Dennison well on the Miller farm, one mile south of the group of wells about the Ort farm, made a slight demand on the attention of the oil trade on the 28th of December when it was drilling in the lower pay streak and producing 85 barrels of oil per day. The gauge of the well January 4th, was 75 barrels. Reep & Sutton found a dry hole 100 rods northwest of the Dennison, on the O'Brien farm. While there is small room for a field about the Ort wells, operators are disposed to occupy all available space on short notice. There is quite a rush of rig builders about the Dennison and the National Transit Co. will erect a pump station in this section. During December 22 wells were finished in these counties, having a new production at the close of the month of 173 barrels, and eight of the wells were dry. The November count showed 33 new wells with an aggregate production of 348 barrels, and the proportionally large number of 16 dusters. On the last day of December there were 14 new rigs, 10 old ones and 31 wells drilling, a total of 55. At the close of November the aggegate of new operations was 65.

SHOUSTOWN, MT. NEBO & ENVIRONS.

From Pittsburgh to Smith's Ferry, along the Ohio river oil region, parties who have had a varied experience in the old fields, are making a thorough test of the country for oil. In Ross township, Allegheny county, J. M. Guffey & Co. are cleaning out an old well which they drilled on the Riel farm. The Union Oil Co. are renovating the Mt. Nebo well and on the first of the year were building a rig in the same locality. At the Frederick well, northeast of Mt Nebo, they were struggling with salt water when the AGE representative made the monthly canvass. George H. Dimick, who opened up the Cherry Grove pool, is associated with Guffey & Gailey in building a rig on Neville Island, in the Ohio river below Pittsburgh. Dr. Hunter is leasing lands in the Mt. Nebo section and was building a rig on the Smith farm along Montour Run. In the eastern part of Beaver county, about two miles southwest of Shonstown, the Raccoon Oil Co. finished one well in December and at this writing, January 9th, they have three drilling. Their No. 1 well, which is sometimes called the Grace well, is located on the McNamee farm, and is a half mile southwest of the Dilworth failure on the Langfitt farm, which disclosed the existence of about 25 feet of sand. The following record is authentically given for the Raccoon No. 1. The salt water about two bailers per day was cased off at 690 feet; the sand 27 feet in thickness was struck at a depth of 1460 feet—only two feet is reported to be of prime quality. On the 14th of December the well was given a 40 quart shot in two sections each of which was nine feet long. An anchor 13 feet in length was used and the well cleaned itself nicely after the explosion of the torpedo. The well is rated by the owners an indicator of something better and is supposed to be on the eastern edge of the streak or belt. Of their three wells now drilling, one is located on the McCoy Heirs farm, about a quarter of a mile northwest of the No. 1 well. Another is situated on the W. S. Hood farm, a half mile southwest of the pioneer well, and the third has a geographical position on the Agnew property, one mile northwest of the "first cause." The Philadelphia Co. of Pittsburgh, have a well drilling in Allegheny county two miles southwest of the Raccoon Oil Co.'s operations. Below Shoustown on the north side of the river, the Economites are drilling several wells on their property. Across the river from Rochester, the Gailey Bros., well known operators in the old fields, had three wells producing on the 20th of December. The wells were doing respectively five, eight and twenty barrels. At that time they had one well drilling on the Rev. Taylor's farm and a rig upon the Trumpeter farm. In this section they find a salt water sand 140 feet above the oil rock. Gailey Bros. were building a rig at Woodlawn on

the McDonald farm, five miles up the river from Rochester.

GREENE COUNTY.

The sands which were sifted by the sea waves centuries ago, far below the surface of Greene county, are now passing under the magnifying glass of the prospector. E. M. Hukill & Co., of Pittsburgh, after selling the Carpenter Gas Co. went to Greene county and leased a belt of land from three to five miles in width, extending from the old development in a southwesterly direction into West Virginia. Since that time they have been putting the country to the test of the centre bit with indifferent results. Their first well was located on the Stephen Girard farm, near Willow Tree. This well was completed in August, and is a pumper of 20 barrels calibre from the Dunkard rock. It is, however, allowed to flow, and produces about five barrels per day, and they have 1000 barrels tankage at the well. The sand was struck at a depth of 701 feet and had a thickness of 39 feet. There is practically no gas and the well was cased to a depth of 605 feet to shut off the cave. Their No. 2 well is situated on the Fordyce farm, one and a third miles west of the Girard, and is said to be located on the western slope of the Saltsburg anticlinal. The well was dry in the Dunkard sand, and on the 20th of December was shut down at a depth of 1400 feet in order to ream down and case to a greater depth with five and five-eighths casing. It was cased 800 feet with five and five-eighths casing and 1400 feet with four and a quarter pipe. The owners intend to put in 1000 feet of five and five-eighths casing. As far down as 1400 feet the well is a failure. Their No. 1, on the Gregg farm, is situated a half mile northeast of the Girard well and was a failure in the Dunkard sand. It's iron lining consists of 685 feet of 5 5-8 casing and 1185 feet of 4 1-4 pipe. It was drilling at a depth of 1350 feet on the 21st of December. The Girard No. 2, a half mile west of No. 1, failed to find the Dunkard sand and it is shut down on the top of the salt water rock. E. M. Hukill & Co.'s well on the Hathaway farm, three miles southwest of the Girard No. 1, was dry in the Dunkard sand and is shut down in the salt water sand. At Mt. Morris on a branch of Dunkard creek, timbers are on the ground and a rig will be built this month. Northeast of all operations they were ready to drill December 21st on the Longaneeker farm. The upper salt water sand is found at Willow Tree at a depth of 400 feet and the lower, which has a thickness of 103 feet, is found 1,000 feet below the surface.

Altogether, E. M. Hukill & Co. have about 20,000 acres leased at one-eighth royalty, and after a prescribed time they pay a rental of a half dollar per acre upon the farms upon which they do not drill.

Porter, Gillmor, Quick & Co., of Titusville, have also made some tests in the country. Their well on the Lantz farm situated west of E. M. Hukill & Co.'s No. 1, on the Girard farm, was completed in November and failed to disclose the existence of crude. The Dunkard sand was encountered at a depth of 700 feet. Porter, Gillmor, Quick & Co. also drilled a well east of the Girard No. 1 on the Keener farm. It was added to the completed list in November and was barren of oil in the Dunkard sand. This company had a well drilling December 21st at a depth of 100 feet on the Vance farm, a half mile north of the Girard. Guffey & Co. drilled a well on the Mundle farm three miles north of the Girard, to a depth of 900 feet without finding oil.

Joe. Craig and F. M. Lowrie, the scout, have anchored between three and four thousand dollars in leases in Greene county. They hold their leases upon the rental plan and allow other parties to bounce the drill in the wild-cat field.

Crude Market for December.

The market throughout December moved within narrow limits and possessed few interesting features. It was governed almost completely by a single well, the news from which seemed to absorb the attention of the entire trade. After the sudden break in November, that carried prices down into the eighties, there was a general disposition on the part of the trade to remain quiet and await future developments. Prospects for a large field at Kane appeared good, and investors in crude certificates have been correspondingly scarce.

The growth of a strong bear sentiment has been apparent, and sellers have been plentiful, but a lack of certificates has created a timid feeling among the freight takers, and they have been keeping close to the shore, with sheets evenly balanced at the end of each day's business. As a result, carrying rates have ruled very low in the various Exchanges all the month. In this manner selling short has been robbed of its principal attraction, and those inclined to buy have been afforded a little encouragement by the cheapness of the carrying.

The market opened on December 1st at from 88½ to 89 cents, and on the 4th reached 93½, which was the highest point of the month. The lowest point was touched on the 21st, when 85⅛ was recorded in Bradford and New York. The report, on the 23d, that the Kane well had been drilled twenty feet in the sand, with no marked improvement in its output, with the phenomenal buying of young Culbertson in the Oil City Exchange, caused a momentary strengthening of values and the Christmas holidays saw oil once again above the 90 cent point, with a firmer feeling manifest. Opening at 90¼ a 90¾ on the 28th, it reached 91 the same day, and then the reaction came, which carried prices down to 87 cents, on the last day of the month. The month closed with quotations at 88¼ to 88⅜.

The range of prices for December was 8⅜ cents as compared with 23⅞ cents in November, 12½ cents in October, 4¼ cents in September, 7¼ cents in August, 13⅛ cents in July, 18 cents in June, 4¾ cents in May, 4⅜ cents in April and 8 cents in March.

THE CLEARANCES.

	December. Barrels.	November. Barrels.
Bradford Oil Exchange	50,662,000	74,480,000
Oil City "	116,066,000	140,490,000
New York Consolidated Exchange	274,906,000	366,768,000
Pittsburgh Petroleum Exchange	61,426,000	84,882,000
Philadelphia Oil Exchange	23,552,000	27,882,000
Total	526,612,000	694,502,000

Wells Completed, 1885.

Month.	Allegany		Bradford		Warren & Forest		Lower Country		Grand Summary	
	To'l.	Dry.	To'l.	Dry.	To.l.	Dry.	To'l.	Dry.	To'l.	Dry.
January	14	6	15	2	18	3	32	8	79	19
February	6	3	12	0	19	2	27	5	64	10
March	7	2	23	0	25	3	42	12	97	17
April	10	1	24	0	45	4	52	7	131	12
May	27	4	37	2	67	7	81	18	212	31
June	32	1	41	2	74	6	102	26	249	35
July	29	1	37	1	81	9	95	16	242	27
August	33	1	35	0	97	9	121	29	286	40
September	60	2	67	3	82	10	148	23	357	43
October	62	7	62	2	100	14	173	28	397	44
November	51	0	68	3	102	11	167	35	388	53
December	55	4	63	3	96	7	141	31	355	45
Total	386	35	484	18	806	85	1181	238	2857	376
Total 1884	501	41	601	20	778	121	429	75	2309	257
Difference	115	6	117	2	28	36	752	163	548	119

Total wells completed in 1885	2,857.	Total dry	376
" " " 1884	2,309.	" "	257
" " " 1883	2,886.	" "	233
" " " 1882	3,269.	" "	180
" " " 1881	3,848.	" "	180
" " " 1880	4,194.	" "	185
" " " 1879	2,889.	" "	160
" " " 1878	3,018.	" "	327
" " " 1877	3,954.	" "	657

DECEMBER OPERATIONS.

THE ENTIRE REGION—WELLS COMPLETED, WELLS DRILLING, AND RIGS UP AND BUILDING.

WELLS COMPLETED IN DECEMBER, 1885

Allegany Field.

Twp.	Owner.	Barrels.
Scio, 1, (Neff)	Pickering & Smith	5
" 2, "	H Haring & Co No 3	5
" 2,	Coast Oil Co No 37	5
" 2,	Pennell & Co No 2	5
" 4,	Mackin & Breckinridge No 12	6
" 11,	(O Norton) Maxson Oil Co No 8	4
Alma, 2,	H L McMullan No 13	6
" 3,	Triangle Oil Co No 18	4
" 3,	Weeter & Baldwin No 3	4
" 19,	(Allen farm) Duke & Norton Oil Co No 55	5
" 19,	(Allen farm) Duke & Norton Oil Co No 59	5
" 20,	W F Coast	5
" 37,	Perrin & Young No 13	6
" 81,	Shirley & Hoehstetter No 4	3
" 85,	(Martha) Shirley & Hoch'r No 1	5
" 86,	Shirley & Hochstetter No 8	5
" 85,	Asso'd Prod Co No 4	5
" 140,	Willetts, Duke & Rauber No 10	5
Wirt, 9,	(Fernell) Kilbury & Williams No 2	4
" 33,	Wellman, Miner & Fuller	6
" 43,	(Finch) Geo C Knox & Co	5
" 48,	Nile Oil, Co No 4	4
" 52,	(Shaw farm) E T Johnson No 4	5
" 52,	Johnson & Wilson No 5	5
" 52,	(Jacob Jordan) Barton, Ackerly & Smith No 2	8
" 52,	(Jacob Jordan) Barton, Ackerly & Smith No 3	10
" 52,	(Jacob Jordan) Barton, Ackerly & Smith No 4	10
" 55,	(White) P M Shannon & Co No 1	4
" 60,	(Alvah Jordan) J H Snow No 3	6
Bolivar, 7,	Stitt & Montgomery No 6	5
" 8,	(Swift) Manhat'n Oil Co No 10	5
" 15,	(Sawyer) Smith & Sawyer No 19	8
" 24,	Riley Allen No 7	5
" 24,	F C Streeter & Co No 10	5
" 33,	(Perry farm) D A Newton No 1	2
" 33, "	" " No 2	2
Genesee, 14,	(Bliss) C W Scofield No 25	5
" 22,	(Wells) Empire Gas & Heat Co Limited No 3	6
" 24,	Dusenbury & Wheeler No 5	5
Clarksville, 1,	I Willets No. 2	6
" 3,	(S Bartow) National Transit Co No 63 (for gas)	gas
" 10,	Angell Oil Co No 12	8
" 10,	Whipple & Davis	8
" 10,	H C Werthman	8
" 11,	(Congdon) Ackerly, Barton & Co No 11	10
" 14,	(Bradford) Ackerly, Barton & Co No 12	5
" 12,	(Thurston) Ackerly & Sammel No 26	gas
" 20,	(Ernhout) Ackerly & Sammel No 13	12
" 20,	(Zimmerman) Clarksville Oil Co No 9	5
" 20,	(McDougal) Mack Oil Co No 5	5
" 28,	(Butts) Love, Patterson & Co No 11	5
" 28,	(Butts) Love, Patterson & Co No 13	5
" 28,	(Peckham) McElwaine & Co No 2	7
Willing, 136,	Barnum & Co No 1	dry
Westfield, Pa.,	Bradley & Co	dry

Wells completed 55
Production 287
Dry 4

Bradford Field.

Deiter, Book & Hawkins No 5		8
Newell, J T Jones No 25		10
Drake, " No 25		10
Clark, P Hannan & Co No 4		8
Donnell, Wilbur Bros No 3		4
Moody, Emery Oil Co No 106		10
Warrant 2268, R J Straight No 15		10
" " " No 16		4
Bingham lot 193, Amm & Co No 65		8
Tomes, Kincaid & Harper No 2		6
Craft, Archer & Roy No 17		5
Crooker, Geo Crooker		6
" E A Boyne No 1		6
Cranmer, Columbia Oil Co No 7		dry
Wilson, O'Connell & George No 11		4
Newell, W H Duncan No 6		8
Brown, W C Ward No 2		5
Boss, Smiley & Howe No 1		3
Seward, Kemp & Laney No 3		5
Taylor tract, En Transit Co No 38		8
Whittaker, Frank Davis No 3		4
Lafferty, Van Vleck & Gifford No 43		10
Brennan, A W Boyd		8
Shedd, John Hill No 6		8
Turner, Perry Timblin No 5		8
E T Co, Forest Oil Co No 30		4
Bordea, Urquhart & Lavens No 7		8
Van Vleck, H M Miles		6
Norton, F W Mitchell No 18		10
Hamlin, J B Daniels & Co No 19		8
Morse, J W Shryock		8
Rixford, Dr. Crispen		4
Ellis, C P Collins & Co		3
Dodge, Tidewater Pipe Co No 4		2
E T Co, H Schaulis No 2		8
Forest Oil Co, Letson Bros No 4		8
C B & H, Page, Walker & Co No 4		8
" R J Straight No 12		8
" J S Patterson No 10		8
" Caldwell, Boyer & Co No 8		8
Fries, Franchott Bros		6
Zaph, "		6
VanCampen, Barnsdall & Stearns No 9		8
Stevens, Wm Steven & Son		8
Hamlin, Forest Oil Co No 37		6
Zimmer, " No 8		8
Cooper, " No 5		3
" C P Collins & Co No 2		3
Barse, Reeves & Bussell No 7		8
" Jas Galbraith No 3		8
Ballard, L H Ballard		5
Lee & Hallock, J L McKinney & Co No 16		15
Bingham lot 581, Ass'd Prod Co No 55		25
" 538, C P Byron No 7		10
" 577, Rose & McLeod No 5		10
" 369, Bennett & Thomp'n No 10		8
" 456 Bayne, Full'r & Mel'n No 1		5
" 540, T J Melvin No 12		15
Warrant 3084, Union Oil Co No 61		15
" 2243, Emery Oil Co No 44		15
Lot 129, P T & W C Kennedy No 8		5
Five Mile Run, (Olean) Thompson & Veazie		dry
Warrant 3712, C C Joy		dry

Wells completed 62
Production 451
Dry 3

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village.

Wm Marsh, Phillips, Collins & Co No 5	6
" J W Panton	5
Fuller, Pliney Parker & Co No 2	3
Rollin, Bochert & Smith No 4	30
English, B F Brown No 2	30
Morrison heirs, Anchor Oil Co No 5	150
" " No 6	dry
Richardson, T N Barnsdall	dry

Warren.

Wardwell, Benedict & Rockwell No 29	10
Lot 41 (Kinzua) S B Logan & Co No 1	4
Rankin, McWilliams Bros	5
McWilliams, Pickett & Stone No 12	8
Keller, A Sammelson	2
Scott, Harley & Trubey	dry
Davis, Davis Bros No 8	5

Wells completed 15
Production 258
Dry 3

Clarendon.

35, Hazelton & Bell No 10	8
35, " No 11	6
54, O W Beatty & Bro No 37	8
54, " No 38	7
496, " No 13	6
77, J Smith & Son No 4	4
496 Fred Hue No 13	6
464, Lockwood & Parsons No 14	5
464, Columbia Oil Co No 19	10
Stonehill, Book & Dufur	5
463, Thos Maginnis	3
464, Bines & Rogers No 4	5
499, Munro & Finnegan No 8	6
499, " No 9	5
526, E O Emerson No 10	6
527, F H Rockwell & Co No 17	6
75, Armstrong & Co	4
80, Johnson Irvine No 4	5
80, D J Thayer No 13	8
104, " No 2	5
105, Bradley & Bankson No 6	6
105, Sam Tait Jr No 1	8
105, R I Shugert	6
106, Ross & Hopewell No 2	6
106, F H Rockwell & Co No 13	6
108, Fay & Lawton	6
162, J A Dower No 5	5
526, Keatley Bros No 12	6
530, H B Porter No 13	5
531, Alfred Short & Co No 3	6
531, " No 4	6
558, Sam Tait Jr No 7	6
558, Goss, Goal & Haskell No 5	5
584, Matson, Coldren & Berlin No 3	3

Wells completed 34
Production 197

Tiona.

81, Doc Jenkins No 1		8
83, Booth Bros No 2		8
74, J L & J C McKinney		dry
84, " No 10		6
103, (lot 17) " No 3		5
103, " " No 12		8
103, (lot 15) " No 20		6
103, " " No 22		8
103, " " No 23		6
103, " " No 24		6
104, R R Armor No 10		5
104, " No 11		6
109, O'Donnell & Hill No 4		6
109, O F Schonblom No 10		6
161, O'Donnell & Hill No 2		5
164, Howe, Work & Moore No 3		5
200, Bovee & Duck No 6		5
201, Short & Dunham No 3		6
201, R M Brown & Co No 9		6
201, L H Best No 7		6
201, Wesley Chambers No 3		6
205, J R Kuhn & Co No 2		6
205, H B Beatty & Co No 16		6
205, " No 17		6
240, Pickett & Farnsworth No 2		8
240, F W Winger No 2		6
240, Cochran Bros No 5		8
240, Bright & Borchert No 3		5
244, Horton, Crary & Co No 6		6
281, " No 1		6
284, Watson & Mitchell No 3		5

Wells completed 31
Production 185
Dry 1

Cooper District.

397, (Lacy) Jos Clinton	6
407, Shank & Stewart No 12	15
E T Co, Fertig & Henne	8

Wells completed 3
Production 29

Balltown.

3195, (Crissman) N F Clark No 9	50
3195, Stone " No 7 est	40
3195, Proper Reserve Oil Co	10
3197, Clark & Foster No 1	15
5215, May, Kelley & Grandin No 38	60
5215, " No 39	40

Wells completed 6
Production 215

Kane.

3767, Craig & Cappeau No 1	96

Miscellaneous.

Pittsfield, (lot 224) Ford & Co	dry
Youngsville, (Rouse) Phillips & McKinney	dry
Johnsonburgh, Ridgway Gas Co No 3	gas

Grand Valley.

Carpenter, L B Wood & Co No 2	5
Drake Pet Co, W W Hague	3
More, G P Kepler & Emerson No 3	3

Wells completed 6
Production 11
Dry 3

Lower Country.

Venango.

Farm.	Operator.	Barrels.
Church Run (Gray)	Anchor Oil Co	dry
McCormick, Phinney & Co		3
Nuffer, Oil City Fuel Supply Co		gas
Hogue, "		gas
Gormley, Richardson & Hughes		3
Gates, (4 leases)	J J Fisher No 2	3
Tract 47, "	No 8	10
Morrison (Salem) "	No 2	5
Noble, Octave Oil Co No 9 est		8
Pin Oak, J B Smithman		10
Pioneer, H R Davis		5
Neiltown, Unknown		3
McElhiney, P W McCray		6
Moffatt, M C Martin est		5
Rynd farm, P Glenn		4
Hill, Taylor & Torrey		gas
Remburg, Hoover & Co		dry
Gailey, Kugler & Gailey No 12		8
W & K, Wolf & Kugler No 7		7
Raymilton, Egbert & Sheasley		3

Mt. Hope.

Harrington, Galbraith & Shepard No 4	6
Bruner, " No 1	2

Rockland.

Reihart Crawford & Co	dry
David Jolly, Fisher Oil Co No 2	dry
Jas Jolly, Leckey & Co No 1	dry

D Porter, Goodrich & Salisbury No 2 15
" " " No 3 est. 10
" Dale Bros No 3 20
Batten, " No 2 15
" " No 3 ..... gas
Black Heirs, " No 1 20
J Jolly, " No 4 40
" " No 5 40
Wic s, W H H Pifer No 3 est 15
Cox, Forest Oil Co No 1 6
Jas Jolly, Morgan & Fox 40
John Hetzler, H P Boyd & Co 30
Shippen, Ira C Fuller ..... dry
Wood & Hill, Wilson & Smith ..... dry
Johnson, Blakeslee & Heydrich ..... dry
Matthron, St vens & Son ..... dry

Bullion.

Vanderlin, Hollister & Co 5
Baker, Benner & Co 5
Balliatt, W T Baum 6

Vicinity Emlenton.

Cross, S W Phillips 7
Grant, Bennett & Allen No 3 5
Leslie Sloan, J M Ankers No 3 10
Thompson, Sherwood & Co 4
Lawrence, Griffin 8
Grant, (Squaw Valley) Venture Oil Co.. dry
J Black. Black & Crawford 7
Leslie, Thomas Dutton 10
Grant, J P Crawford & Son 5

Wells completed 53
Production 414
Dry 14

Butler and Armstrong.

Thompson, Fisher Oil Co ..... dry
Rodgers, Reep & Sutton 10
Miller, Dennison & Co 20
Clearfield twp, Witt, Phi lips Bros ..... dry
Smith, Fisher Oil Co ..... dry
Aldin er, Kittaning Oil Co ..... dry
McCaffrey, Phill ps No 1 ..... dry
Behm, Lappe ..... dry
Jamieson, Thos Jamieson 2
Leithold, Hunter & Cummings No 2 10
Steele, R Jennings No 11 10
Mrs Ort, Westerman & Co No 3 30
John Frederick, " No2 8
Tittley, Tittley & Co No 2 20
James McBride, Brady & Co ..... dry

Martinsburg.

Stone House, Conley Oil Co 10
Gardner. Brawley & Co 8
Wm Reed, Brawley & Co ..... dry
Black, Devitt & Co 12
J Lane, P C L & P Co 15
Widow Witt, Showalter Bros & Hartman 6
Shultz, Frazier, Doty & Co 12

Wells completed 22
Production 173
Dry 8

Clarion.—Cogley Run.

Gibbs, Ashland Oil Co No 12 30
" " No 13 75
Fisher, J B Smithman No 8 35
" " No 16 35
" " No 17 50
Berlin, Patterson, Leedom & Hayes No 10 20
Shippen, " No 2 dry
John Deitrich, Lovell & Co No 11 50
" " No 12 50
Fern, White & Gifford No 7 15
Barber, Barber No 4 30
John M Deitrich, Holt & Morrison No 2 .. 30
" " No 4 .. 40
Hecter, Berringer & Graham No 5 20
" Wolf & Kugler No 4 15
" Thos Hulings No 3 25
M L Hess, Emlenton Oil Co No 4 15
" " No 5 60
" Hess Bros No 3 15
Beals, Beals, Hunter & Co No 6 30
" " No 8 20
Edmunds' Heirs, Urquhart & Layens No 3 9
E Slicker, Slicker & Anderson No 2 est .. 15
" Fritts, Cox & Baynham est 25
John Henel, Koch Oil Co No 4 35
Hess, L O I Co No 2 25
J M Deitrich, Booth, Gifford & White No 2 50
" " No 3 40
Hockman, Shaffer & Sheasley est 30
Gillingham, Doyle, Gill & Co No 9 40
Black, Doyle, Gill & Co No 5 30
" Hess & Sackett, No 7 50
" " No 8 25
" " No 9 30
Geo Hess, Milliken Bros No 1 40
" " No 3 25
Sowers, Hite & Walters No 4 30
" Sheasley & Shaffer No 2 15
H J Smith, Geo LeFlemme & Co No 2 .... dry
" Swartzfeger & Co No 2 ..... dry
" " No 3 est... 15
" McIntyre, Wood & Buzzard No 2 ... 8
Baum, Berlin & Son No 4 est 15
Kinnemuth, Chauncey Oil Co No 9 15
" " No 7 10
Widow De trich, Wo f & Bell No 2 40
" " No 3 40
" (Seibert lease) Wolf & Bell No 1 20
J hn Herrmann, Wolf & Bell No 2 est ... 20
Herrmann, Young & Roess Bros No 1 25
" Phipps & Martin No 2 30
Conrad Kinnemuth, Moore & Co est 10
Widow Deitrich, Staley, McDonell & Wolf No 5 50
Widow Deitrich, Staley, McDonell & No 6 30
Widow Deitrich, J M Deitrich & Co No 2 25
" " No 3 dry
M Neeley, Calvert & Co ..... gas
A Meng, E E Chambers, Whitehill & Co No 1 5
" Crawford, Wentling & Co 5
Exley, Frederick & Hatch ..... gas
R Weaver, Short, Chambers & Whitehill dry
" Mortimer & Co ..... dry
Geo Hess, Hess & Snively No 2 15
Dodd, P F Kriffs & Son ..... dry
Fox Estate, Fox & Fink No 26 5
Boyd, Elders, Collins & Co est 5

Wells completed 66
Production 1562
Dry 9

DRILLING WELLS,

RIGS UP AND BUILDING DECEMBER 31, 1885.

Allegany Field.

Scio.

Lot.	Owner.	Depth.
1,	(Neff) Pickering & Smith	drilling
2,	Pennell & Co No 3	drilling
2,	Co st Oil Co No 38	100
3,	Coyle (old)	rig
4,	Mackin & Brockenridge No 13	drilling
12,	Allen & Morse (old)	rig
12,	Griffin & Co No 10 (old)	rig
47,	(Church) Union Oil Co No 8	1200
50,	" No 9 (old)	rig
51,	Duke & Norton Oil Co No 60	300

New rigs 0
Old rigs 4
Drilling 6
Total 10

Alma.

2,	H L McMullan No 14	rig
3,	Triangle Oil Co No 19	drilling
3,	Weet r & Baldwin No 4	rig
3,	(McCariston) Allen, Sternberg & Vine No 3	500
12,	Dugan) Dan Kane & Co No 5	drilling
19,	(Allen f rm) Duke & Norton Oil Co No 56	drilling
19,	" " No 57	drilling
19,	" " No 58	drilling
20,	W F Coast	drilling
23,	Vance & Hor on (old)	3 rigs
24,	New Milford Oil Co (old)	2 rigs
24,	W F Jones (old)	rig
26,	Wi letts & Elliott (old)	rig
37,	Perrin & Young No 12	drilling
51,	Sawyer & Co (old)	rig
78,	Torry & Pirden No 3 (old)	rig
86,	Brown & Thornton No 1	drilling
86,	" No 2	rig bldg
88,	Duke & Co (old)	rig
100,	Mosier & Reddy No 2	drilling
120,	McCalmont Oil Co No 9 (fishing)	1150
120,	" No 10 (old)	rig
140,	Willetts, Duke & Rauber No 11	drilling
142,	Dean & Smith No 5 (old)	rig

New rigs 3
Old rigs 12
Drilling 12
Total 27

Wirt.

1,	Appelbee Bros No 9	drilling
1,	" No 10	rig
1,	Riley Allen) Emp Gas & Fuel Co Limited No 2	rig
33,	Wellman, Miner & Fuller	drilling
33,	Stewart Bros	drilling
34,	(Drum) J B & E C Bradley No 3	drilling
43,	(Finch) G C Knox & Co No 3	drilling
48,	Chas Phillips No 3	rig
48,	Wirt Petroleum Co No 3	drilling
48,	" No 4	drilling
48,	A R Dougherty & Co No 1	sand
48,	Love & Co No 2	drilling
48,	" No 3	rig
51,	(W Jordan) Lester, Jordan & Co No 2	drilling
52,	Johnson & Wilson No 4 (old)	rig
52,	" No 6	drilling
52,	(J W Jordan) Luce & Hembert No 2	100
52,	(Shaw) E T Johnson No 5	drilling
52,	(Jacob Jordan) Barton, Ackerly & Smith No 5	drilling
52,	" " No 6	rig bldg
52,	" " No 7	rig bldg
52,	Wilson Bros & Ackerly No 9	drilling
53,	(Burdick) Barton, Hammond & O'Neill No 1	rig
59,	(Labar) Reynolds & Co No 1	200
60,	A B Cottrell No 1 (fishing)	sand
60,	" No 2	rig bldg
60,	(Alvah Jordan) J H Snow No 4	300
60,	" " No 5	rig bldg
60,	(J Jordan) Lester, Jordan & Bradley Bros No 2	drilling
61,	(Deyoe) Anderson & Bradley No 1	drilling
61,	(Peterson) Limekiln Club No 1	drilling

New rigs 9
Old rigs 1
Drilling 21
Total 31

Bolivar.

7,	Coast Oil Co No 37	rig
7,	" No 40 (fishing)	1200
12,	Wood & Co	rig bldg
15,	(Sawyer) Smith & Sawyer No 20	drilling
23,	Irwin & Morgan No 6	700
23	" No 7	rig bldg
23,	F C Streeter & Co No 11	200
23,	" No 12	rig
24,	Riley Allen No 8	drilling
30,	Fritz & Lowry No 8 (old)	rig
30,	" No 10 (old)	rig
31,	Smith & Co No 10 (old)	rig
31,	A H Coffin	500
63,	Northrup & Co No 16	800

New rigs 4
Old rigs 3
Drilling 7
Total 14

Genesee.

7,	Elsessor & Barmore No 4	300
11,	(Little Genesee) Emp Gas & Fuel Co Limited (for gas)	drilling
14,	Merwin (old)	rig
22,	I Willetts No 14 (old)	rig
22,	" No 15 (old)	rig
22,	" No 16 (old)	rig
22,	" No 17 (old)	rig
22,	" No 18 (old)	rig
22,	" No 19 (old)	rig
23,	Hughes & Coughlin (old)	rig
24,	Emery Oil Co No 8	sand
24,	" No 9	rig
24,	" No 10	rig
29,	William Cranston (old)	rig
38,	S E Young (old)	rig

New rigs 2
Old rigs 10
Drilling 3
Total 15

Clarksville.

2,	(Smith) John Hatch No 1	rig
3,	(Mills) Chas Phillips No 1	drilling
3,	(S Bartow) Nat'l Transit Co No 64 (for gas)	drilling
6,	(Seever) Ackerly, Barton & Co No 9 (old)	rig
6,	" " No 13	rig bldg
6,	(Wet erby) " No 14	rig bldg
11,	(Congdon) " No 15	rig bldg
9,	Heuston & Brecht No 4 (old)	rig
9,	Merrit (old)	rig
10,	(M Jordan) M Jordan	rig bldg
10,	Angell Oil Co No 11	drilling
10,	" No 15	rig
10,	" No 16	rig
10,	S W McKelvy No 1	drilling
10,	Steele & McKelvy No 2	rig
10,	(Cranfall) Davidson & Madison No 7	drilling
10,	Whipple & Davis	drilling
10,	"	rig
14,	(Lanc) Jas O'Neill No 1	drilling
14,	" Ackerly & Sammel No 1	rig bldg
20	(Ernhout) " No 6 (old)	rig
20,	" " No 9 (old)	rig
20,	" " No 10	drilling
20,	" " No 23 (old)	rig
20,	(Zimmerman) Clarksville Oil Co No 10	drilling
20,	(McDougal) " No 11	rig
20,	" Mack Oil Co No 6	rig
20,	" Lord & Whitnall No 4	drilling
28,	(Butts) Love, Patterson & Co No 12	drilling
28,	" " No 14	rig bldg

New rigs 13
Oil rigs 6
Drilling 11
Total 30

Miscellaneous.

Stanben County, (Howard twp) Van-Campen, Lovell & Co.... drilling
Potter County, (Brent) Duke C o.... rig
Lycoming County, (Field's Sta ion) H W Steinholper..... 800

New rigs..... 1
Old rigs..... 0
Drilling..... 2
Total..... 3

Bradford Field.

East and West Branches.

Dent, Whitney&Wheeler No 40 (old) rig
Newell, J T Jones No 26 ..... drilling
" " No 27..... drilling
Pike, " No 13..... rig
Cary, W H Duncan No 4 (old) ..... rig
Drake, Melvin, Kennedy & Drake No 16..... 300
Moody, Emery Oil Co No 107..... 50
" " No 108 50
Nieur, R Jennings & Son No 1 1000
Warrant 2268, R J Straight No 17.... rig
Bingham, lot 147, " No 7 .... drilling
" lot 152, Forest Oil Co No15 drilling
" lot 154, Union Oil Co No 19 300
Kissam, Richard & Blakely No 8.... 100
Stinson, Connelly Bros No 3..... drilling
Tomes, Kincaid & Harper No 3..... drilling
" Le eouf & o No 1..... rig
B O Co, Western Oil Co No 4 (old).. rig
" " No 6 ..... sand
Mack, Columbia Oil Co (old)..... rig
Mack, Fisher Bros No 19 (old)..... rig
Mack, F E Boden..... sand
Pomeroy, Wheatland Oil Co 50
Hatfield, Wesley Chambers (old) rig
Tay or Tract, Ent Transit Co No 39. rig bldg
Hinchey, McMurray Bros No 6 (old) rig
Paton, McClure & Co (old)..... rig
Clark, McCray Bros (old) ..... rig
Willis, do (producing).... 550
Cockroft, Jas E Coehran, No 1..... rig

Quintuple.

25, C W Scofield (old)..... rig
44, J W Humphrey (old)..... rig
220, Clark, Stearns & Co (old)..... rig
260, E T Howes (old)..... rig
105. Smith Se men. & Co (old)..... rig
107, J S Wilson No 3..... rig
—, Camp & Zane No 13 (old)..... rig

New rigs..... 6
Old rigs and shut down..... 16
Drilling..... 15
Total..... 37

Kendall Creek.

Lafferty, Van Vleck & Gifford No 44 drilling
" " No 45. rig
Brennan, A W Boyd..... rig
Storms, Suhr & Schopperle 1200
Farr, Hazelwood Oil Co No 7..... 700
Turner, Perry Timblin No 6..... drilling
Fisher, Larrabee&Whedon No 9(old) rig
E T Co Forest Oil Co No 31..... rig
Willetts, J B Brawley..... rig

New rigs..... 4
Old rigs..... 1
Dril ing..... 4
Total..... 9

Knapp's Creek.

VanVleck, H M Miles 400
Baum, R Jennings & Son No 11..... 500
White, Mit hell & Jones No 81(old). rig
Matthews, C B Whit-hea No 6..... rig
Hamlin, J B Daniels & Co No 20 300
Bingham, Waugh & Co No 16..... 1500
Allen, C W Seofield, No 10..... rig bldg
Borden, Martin & Co 50
" John Looker..... rig
Scio lands, Buehanan, Randall & Co rig
Grow, G N Grow No 1..... 1000
Dennis, Shear & Nolan No 1..... rig
Irons, P V Carter..... rig
Smith, Pete son & Buckley No 1.... drilling
Youngs, Eldred Gas Co..... drilling
Sanderson, Tarbell & Shaver ..... drilling
Keating, Forest Oil Co No 51..... drilling

New rigs..... 6
Old rigs..... 1
Drilling..... 10
Total..... 17

Foster Brook.

E T Co, Kirwin & Co No 4..... drilling
" " No 5..... rig
" Coleman, Penny & Boyne No 12..... rig
" Post & Blackmarr No 15..... 400
" H Schanlis No 3 ..... drilling
Cronan, Dr Baker No 4 ..... drilling
C B & H, Page, Walker & Co No 6... 900
" " No 7... rig
" " No 8... rig bldg
" Juter & Yager (old)..... rig
" R Y Mitchell No 13..... 1300
" Watson Oil Co No 42 400
" M Mandeville No 7 ..... rig
" Fitzgibbons & Evans No 6. 500
" J S Patterson No 11 ..... rig
" Jno Gillis..... drilling
" B rd & Lincoln No 13..... drilling
Willetts, Howe Bros No 12 (old)..... rig
" " No 13 (ld)..... rig
Foster, Tucker, Rolfe & Burns No 13 drilling
Wilcox, Allen ..... rig
Bell's Camp, Hughes & Co.... ..... drilling

New rigs..... 7
Old rigs..... 3
Drilling..... 12
Total..... 22

Four Mile.

Van Campen, Wm M Brown (old)... rig
" Barnsdall & Stearns No 10 rig
Waters, Griffin & Howard No 2 (old) rig
Fries, Franchot Bros..... rig
Zaph, " ..... rig
Dye, Manhattan Oil Co No 5(old)..... rig
Stevens, Book & Rhodes No 9 ..... rig
Burlingame, Union Oil Co No 7 ..... sand

New rigs..... 4
Old rigs..... 3
Drilling..... 1
Total..... 8

Indian Creek.

North Branch, J D Downing & Co (old) 2 rigs
Morse, Morse & Brown (old)..... rig
Hamlin, Miller & Odell No 4 (old)... rig
" Forest O l Co No 38 ..... rig
Hamlin, Sherman & Levens No 6.... drilling
Barse, R Jennings & Son No 8..... 300
" Union Oil Co. No. 38..... 400
" Henry Jenning No 4..... drilling
Weston, J L McKinney & Co No 6... drilling
" Ernst & Perrin..... rig
Dodge, Kemp & Patterson No —.... rig bldg

New rigs..... 3
Old rigs..... 4
Drilling..... 5
Total..... 12

Cole Creek.

Warrant 2263, Union Oil Co No 6(old) rig
" 2263, " No 7(old) rig
Bingham, lot 495, " No 3(old) rig
" lot 496, " No 2..... 200
" lot 499, " No 7..... rig
" lot 539, " No 44.... 200
" lot 5 8, C P Byron No 8... rig
" lot 538, " No 9... rig bldg
" lot 391, C W Seofield No 5 (fishing).... 1600
" lot 176, McCalmont Oil Co No 20..... 1000
" lot 369, Bennett & Thompson No 11. rig
" lot 540, T J Melvin No 13.. 450
" lot 592, " No 10.. 200
" lot 589, Asso'd Prod Co No 56.... 100

New rigs..... 4
Old rigs..... 3
Drilling..... 7
Total..... 14

Kinzua.

Warrant 3076 Union Oil Co No 62... 400
" 2243, Emery Oil Co No 45 .. 200
" 2243, " No 46... rig
" 2243, " No 47... rig bldg
Niles Traet, Chapin & Co..... 200

New rigs..... 2
Old rigs..... 0
Drilling..... 3
Total..... 5

Miscellaneous.

Near Allegany, C C Conroy & Co.... drilling
Homer, (Olean) W H Curtis & Co... rig
Blakeslee, H Blakes ee..... rig
Port Allegheny, (Eastwood) Wolf & Wileox ..... drilling
Warrant 3669, sub 137 P F Kearns.... drilling

New rigs..... 2
Old rigs..... 0
Drilling..... 3
Total..... 5

Warren and Forest.

GLADE AND OTHER TOWNS.

Kinzua Village.

Marsh, Collins & Morse No 5 ..... sand
Fuller, Collins & Phillips ..... rig
Marsh, " ..... drilling
Fuller, " ..... drilling
Rollins, " ..... rig
Wm Harris, Wm Fogel & Co No 8 .. rig
Morrison Heirs, Anchor Oil Co No 7 drilling
Strong & Cornelius, J M Parker & Co rig bldg
3729, Pieket & Stone..... 500

Warren Etc.

Wardwell, Benedict & Rockwell, No
" " 30.... drilling
" " No 31.... rig
" Island, Cogswell & Co No 4.... 100
2921, (Mead) C C Duffield ..... sand
Big Bend, Hill & Powell..... rig
Herzell, Barnsdall Bros 450
Rankin, McWilliams Bros..... rig
Sweden, J A Magee..... rig
Island, (North Warren) Rhumor&Co rig
Lesser, " Unknown ... drilling
Roy, James Roy..... drilling
Rogers, Barnsdall Bros No 14 (old).. rig
" " No 15 (old).. rig

New rigs..... 9
Old rigs..... 2
Drilling..... 12
Total..... 23

Clarendon.

54, O W Beatty & Bro No 39..... 100
54, " No 40..... rig
78, " (old) ..... 2 rigs
496, " No 14..... drilling
496, " No 15..... rig
496, " No 16 ..... rig
496, Pat Conners No 2..... drilling
496, Fred Hue No 13..... drilling
495, Wm Pagett No 6..... rig
495, " No 7..... rig bldg
464, Wm O'Neil No 2..... rig
463, Thompson & Allen..... rig
463, O'Donnell & Law No 1..... rig
463, J B McElwaine No 4 ..... sand
463, " No 5..... rig
80, J E Tueker No 2..... 500
80, Johnson Irvine No 5..... drilling
80 " No 6..... rig
105, Sam Tait Jr No 2..... drilling
105, " No 3..... rig
105, " No 4..... rig bldg
105, R I Shugert..... drilling
106, S M Ross & Co No 3..... drilling
107, W B Roberts & Son No 15..... drilling
108, Fay & Lawton..... rig
495, S M Ross & Co No 2 (old)..... rig
497, Union Oil Co No 3..... rig
499, Munroe & Finnegan No 10..... 400
499, Capt Adams No 7 800
526, E O Emerson No 11..... 500
527, F H Rockwell & Co No 18..... drilling
527, " No 20 ..... rig
527, " No 21..... rig
526, Keatley Bros No 13 ..... rig
530, Goal Bros, No 5..... sand
530, " No 6 ..... rig
531, Alfred Short & Co No 5..... rig
531, " No 6..... rig bldg
558, Tarbell No 2 ..... rig bldg
558, Goss, Goal & Haskell No 6..... 100
582, H G Lapham No 9..... drilling
558, Sam Tait Jr No 8..... rig

New rigs..... 22
Old rigs..... 3
Drilling..... 18
Total..... 43

Tiona.

81, Jenkins & Co No 2 ..... drilling
81, " No 3 ..... rig
81, " No 4 ..... rig bldg
83, Booth Bros No 3..... sand
83, " No 4..... rig
83, " No 5 ..... rig bldg
59, J L & J C McKinney (shut down) sand
74, " No 2 ..... rig
75, " No 2 ..... drilling
75, " No 3 ..... rig
83, " No 8 ..... drilling
83, " No 9 ..... rig
83, " No 11 ..... rig
103, (lot 17) " No 4 ..... drilling
103, " " No 5 ..... drilling
103, " " No 10 ..... rig
103, " " No 11 ..... rig
103, (lot 15) " No 19 ..... rig
103, " " ——— ..... drilling
111, Wheedon & Shearer No 1..... rig
160, D Gardner No 7..... 100
161, O'Donnell & Tobias No 11..... rig
161, Helm & Mealey No 4..... 800
161, " No 5..... rig bldg
164, Howe, Work & Moore No 4..... rig bldg

165, McKelvy & Best No 13 600
165, " No 14 ..... rig bldg
200, Bovee & Duek No 7 ..... rig
202, Mandeil Oil Co No 9 ..... rig
201, " No 10 ..... rig
201, Short & Dunham No 4 ..... rig
201, R M Brown & Co No 10 ..... drilling
201, L H Best No 8 ..... drilling
201, Wesley Chambers No 4 ..... drilling
201, " No 5 ..... rig
202, E O Emerson No 4 ..... sand
202, " No 5 ..... rig
203, Booth Bros No 4 ..... sand
204, Wesley Chambers No 9 ..... rig
205, J R Kuhn & Co No 3 ..... drilling
205, " No 4 ..... rig bldg
205, H B Beatty & Co No 18 100
240, Pickett & Farnsworth No 3 ..... rig
240, F W Winger No 3 900
240, " No 4 ..... rig
240, Cochran Bros No 6 ..... drilling
240, (Tidewater) E O Emerson No 8 ..... rig
241, L Kraeer & Co No 18 800
241, " No 19 ..... rig
241, " No 20 ..... rig
243, Cochran Bros No 3 (old) ..... rig
244, Horton, Crary & Co No 2 (old) ..... rig
244, " No 7 ..... drilling
244, " No 8 ..... rig
244, " No 9 ..... rig
281, (Ford) L Kraeer & Co No 5 ..... rig
281, Horton, Crary & Co No 2 ..... sand
281, " No 3 ..... rig
28 , Watson & Mitchell No 4 ..... drilling
284, Hackett & Shirley No 2 ..... sand

New rigs 33
Old rigs 3
Drilling 24
Total 60

Cooper District.

369, J M Clapp No 5 100
401, Anchor Oil Co (shut down) 1200
407, Shank & Stewart No 9 (old) ..... rig
407 " No 13 ..... rig
407, Cochran Bros ..... rig
408, McCalmont Oil Co No 26 1000
408. E Barnes & Co No 1 ..... drilling

New rigs 2
Old rigs and shut down 2
Drilling 3
Total 7

Balltown.

3195, (Crisman) N F Clark No 11 ..... drilling
3195, " " No 12 ..... rig bldg
3195, " " No 13 ..... rig bldg
3198, Haight, Agnew & Co No 5 ..... drilling
4821, Balltown Oil Co No 31 ..... drilling
4821, Duteh Oil Co ..... sand
4791, R R Armor No 2 ..... sand
5215, May, Kelley & Grandin No 39 ..... drilling
5215, " No 40 ..... rig
——, Ross, ... drilling

New rigs 3
Old rigs 0
Drilling 7
Total 10

Kane.

Lot
428, Kane & Clemenger ..... rig
424, Shirley & Hochstetter 900
424, Tennent, Howe & Co 2000
424, M Murphy 1000
424, M K McMullin ..... rig
424, M Murphy (disputed lease) ..... rig
425, Union Oil Co No 1 ..... rig bldg
425, " No 2 ..... rig bldg
426, Kane Oil Co 400

Warrant,
3754, Union Oil Co ..... rig bldg
3767, Roy, Archer & Clemenger 200
3767, Craig & Cappeau No 2 400
3767, " No 3 100
3767, " No 4 ..... rig bldg
3767, Craig, Cappeau & A P Co No 1 400
3767, " No 2 50
3782, Chapman & Filkins 900
3782, Asso'd Prod Co No No 1 ..... sand
3782, " No 2 ..... rig
3773, Watson ..... rig
3775 lot 10, Markham & Thyng ..... rig
3775 lot 11, Kane Oil Co No 1 100
3775 lot 11, " No 2 50
3775 lot 12, P T Kennedy ..... rig
3775 lot 13, " ..... rig bldg
3775 lot 14, U A Andrews ..... rig
3775 lot 5, Thompson & Dennison ..... rig bldg
3775 lot 19, Simpson & McMullin 50
3775 lot 20, Reid & Brown ..... rig
3775 lot 20, Bayne & Fuller ..... rig
3775 lot 21, Brenneman & Walker ..... rig
3778, M Murphy ..... sand

Rigs up and building 17
Wells drilling 15
Total 32

Miscellaneous.

McKean, 372, Calhoun ..... drilling
Eldred twp, 142, Roy & Jamieson ..... drilling
Forest, 3564, Magee & Co ..... rig bldg
" 3561 Roberts & Windsor No 3 ..... rig
" 5553, Mirck & Beatty ..... rig bldg
" 3671, J M Artes & Co ..... rig bldg
" 3644, F J Clemenger ..... rig

Grand Valley.

Carpenter, L B Wood & Co No 3 ..... drilling
" " No 4 ..... rig
Blakeslee, Reed & Co ..... rig
Drake Pet Co, Kepler & Truebell No 6 500
" " No 7 ..... rig bldg
Proper, W W Hague No 3 (old) ..... rig
Milo Emerson, " No 2 ..... drilling
Wheelock, Jesse Wheelock No 2 ..... sand
East Branch, W W Benedict & Co ..... rig
C H Ames, Daniels & Co ..... rig bldg

New rigs 10
Old rigs 1
Drilling 5
Total 16

Lower Country.

Venango and Other Sections.

Biery, Graham & Co (old) ..... rig
McCalmont, S P McCalmont 300
" " ..... rig bldg
McCormick, Phinney & Co No 4 ..... rig
Young, John Lee & Co (old) ..... rig
Diamond, Darr & Manning No 9 600
Lee Hicton, Roess Bros No 11 600
Benninghoff, Oil City Fuel S'ply Co 200
" " ..... rig
Ed Tarr, Kulp & Co 100
Harrison, Anchor Oil Co (old) ..... rig
Brown, " (old) ..... rig
Watson, (Kerr Mills) Emery & Stewart 200
White, Stewart & Co No 97 ..... rig
Columbia, Columbia Oil Co No 163 500
A Stewart M B McMannus ..... sand
Griffin, Pu tell (old) ..... rig
Storey, Hazelwood Oil Co No 7 ..... rig
W & K, Wolf & Kugler No 8 ..... drilling
Pleasantville, Emory & Skinner ..... drilling
President, Alshouse & Co ..... rig
Two Mile Run (Roy) Turner & Galbraith ..... rig
Rouseville, Jos McCandless ..... rig
Shaw, J Williamson ..... sand
Moody Run, Thomas Smith 600
Karns, Cornwall & Hasson 1000
Webb, Cranberry Oil Co No 1 500
" " No 2 ..... rig bldg
Fox, " —— ..... rig
Stover, Calhoun ..... rig

Mt. Hope.

Harrington, Galbraith & Shepard No 5 ..... rig bldg
Oster, Galbraith & Parker ..... rig
Melatt, Dr Galbraith 100

Bullion.

Cross, —— ..... rig
Crawford, McFadden & Co ..... rig
Hovis, Gilbert & Co ..... sand

Vicinity Emlenton.

Eli Osman, N Maekin (old) ..... rig
D Russell, Baum & Co (old) ..... rig
J W Smith, Sheasley & Co No 5 500
Sheasley, Jacob Sheasley No 1 ..... rig
Royal, Bennett & Gosser ..... rig
Maginnis, Johnson & Maginnis ..... rig
Porterfield, A A Hopkins (old) ..... rig
Beals, Pattorf & Young ..... sand
Royal, Wilson Bros (old) ..... rig
Grant, Bennett & Allen No 4 100
Johnson, Knight & Shell ..... sand
Cross, Robinson & Leonard ..... drilling
Dr Crawford, Wm Weaver ..... rig bldg
Grant, J P Crawford & Son ..... rig bldg
Hunter, Rowley & Co ..... drilling
Leslie, Thomas Dutton ..... rig
" Harvey Leslie ..... rig
Ritchie, Chas Ritchie ..... drilling
King, Sam King ..... rig
Allabaugh, Crawford & Co ..... rig bldg
McCullagh, Shaffer & Messer ..... drilling
Sloan, Bailey & Walraben-stein ..... drilling

Rockland.

D Porter, Dale Bros No 4 ..... rig
John Hetzler, Dale Bros No 5 200
" " No 6 ..... rig
Black Heirs " No 2 ..... rig
J Jolly " No 6 500
" " No 7 ..... rig
R Porter, Flynn, Klinger & Co No 5 ..... sand
" Goodrich & Sanlsbury No 2 ..... sand
" " No 3 100
D Porter, ". No 4 ..... rig
D B Hetzler, Crawford & Co 100
Jolly, Duncan & Lowentritt ..... rig
J Jolly, Fisher Oil Co No 3 ..... rig
Parson, Jamieson & Furniss No 3 ..... drilling
" " No 4 ..... rig
Wicks, W H H Pifer No 4 300
D B Hetzler, Rider & Simpson (producing) 334
Cox, Forest Oil Co No 2 ..... rig
J Jolly Morgan & Fox No 2 ..... rig bldg
J Hetzler, " No 3 ..... drilling
" Heydrick & Co 100
" Lecky & Co ..... drilling
Batten, C C Bowen & Co ..... rig
D Porter, Koch Bros & Reiter ..... sand
Batten, Harley Bros & Boyd ..... rig bldg
Karns, Reid & Moore ..... rig
Bell, Fisher Bros ..... rig
Rogers & Gates, Heydrick & Co ..... rig
Hetzler, Heydrick, Hite & Co 200
D Johnson, Conners & Fishel 100
Showers, Morgan Bros ..... rig bldg
" Hulings ..... rig
" Joe H Heydrick 150

New rigs 39
Old rigs 9
Drilling 42
Total 90

Clarion.

Cogley Run.

Gibbs, Ashland Oil Co 300
" " ..... sand
Rickenbrode, " No 7 ..... rig
" " No 8 ..... rig bldg
Berlin, Patterson, Leedom & Hayes No 12 800
" " No 13 ..... rig
John Deitrich, Lovell & Co No 8 ..... drilling
" " No 13 100
" " No 9 ..... rig bldg
" " No 10 ..... rig bldg
Fisher, Staley, McDonell & Deitrich (old) ..... rig
John M Deitrich, Holt & Morrison No 5 ..... rig
Heeter, Berringer & Graham 300
M L Hess, Emlenton Oil Co No 6 ..... rig bldg
" Chauncey Oil Co No 4 300
" S P Morrison No 3 900
" Hess Bros No 4 900
" W L Hess No 1 1175
eals, Whitenall & Co (old) ..... rig
" Shippen, Woodburn & Co (fishing) 900
Edmonds Heirs, Urquhart & Lavens drilling
E Slicker, div 1, Knight & Koch (old) ..... rig
" div 5, Painter & Co (old) ..... rig
" Austin & McCormick ..... rig
John Hen l, Koch Oil Co No 5 (old) ..... rig
Amos Strutman, Both, Gifford & White (old) ..... rig
Hess, L Oil Co No 3 ..... rig
Lockman, Shaffer & Sheasley ..... rig bldg
Black, Doyle, Gill & Co No 6 ..... rig
" " No 7 ..... rig
" Hess & Sackett No 10 100
" " No 11 ..... rig
Sowers, Hite & Walters No 5 400
" " No 6 ..... rig bldg
H J Smith, Geo LeFlemme & Co No 3 ..... rig
" Shaffer & Sheasley No 2 100
" " No 3 (old) ..... rig
Baum, Berlin & Co No 7 ..... rig
Kinnemuth, Chauncey Oil No 10 300
School House lot, Frempton Oil Co. ..... sand
Widow Deitrich, Wolf & Bell No 4 300
" (Seibert lease) Wolf & Bell No 2 100
" " No 3 ..... rig
John Herrman, " No 3 200
" " No 4 100
" " No 5 ..... rig bldg
" " No 6 ..... rig bldg
Catherman, Weaver & Taylo ..... rig bldg
" Cogley Oil Co No 1 (old) ..... rig
Widow Deitrich, " No 1 ..... rig bldg
C F Stumpner, John M Deitrich & Co (old) ..... rig
Long, R J Nichol on (old) ..... rig
J Berlin, Dailey & Co ..... rig bldg
Leslie, Wood, McIntyre & Buzzard 100
Berlin, Berlin & Son No 3 (fishing) 700
Hermann, Young & Roess Bros No 2 ..... rig
" Pnipp & Martin No 3 300
Scott Mimm, Peter Fertig & Stewart (old) ..... rig
Widow Deitrich, Staley, McDonell & Wolf No 7 700
" " No 8 100
" J M Deitrich No 4 600
Scheffler, Darr & Co ..... rig bldg
" Hall & Co 600
" " ..... rig bldg
A Mong, E E Chambers No 2 200
W Mong, Frederick & Hatch ..... rig bldg
Deitrich, Operators Oil Co No 2 100
" Kale Bros & Co No 2 300
" " No 3 ..... rig bldg
Gillmore, (Wildcat) Alhouse & Co ..... drilling
Ray, P H Judd & Geiser ..... rig
——Irving & Co ..... drilling
Sheets Jacob Haun ..... 2 rigs
3685, Little Toby Oil Co ..... drilling
3301 (Cooksburg) Cook & Co ..... drilling
3326, Cook & Co ..... rig

Scotch Hill, Wolf & Kugler..... drilling

New rigs 32
Old rigs 11
Wells drilling..... 35
Total 78

BUTLER AND ARMSTRONG.

Kesselman, Botts & Story (old)..... rig
J Pontius, Lynch & Co (old)..... rig
S Pontius, Hunter & Cummings No 7 (fishing)..... 1400
" " " No 8..... rig bldg
Beidenbach, Fisher Oil Co (fishing). sand
McCrea, Smith & Boyd (old)..... rig
" Hunter & Cummings No 3.. 1200
" " No 4.. 1000
" " ..... rig bldg
Burr, P Smiek..... 1200
Jos Wright, Phillips Bros No 1200
A L Shrader " 500
Johnson " 500
Nancy Martin, " ..... rig
Story, Hazelwood Oil Co (old)..... rig
Logan, McCandless & Co 1400
Rowe, Allegheny Oil Co..... 1400
Himes, (Reatt farm) Hunter & Cummings..... sand
" (Squire Reatt) " ..... rig
Gallagher, " No 3 1500
Mrs Ort, Westerman & Co No 4..... sand
" " No 5..... rig bldg
Tittley, Tittley & Co No 3 (old)..... rig
" " No 4..... rig bldg
Black, Ross, Reynolds & Co (old)... rig
O'Donell, McBride & Campbell..... 300
Renfrew, Christie Bros..... 800
" McTamany & Co No 2..... 200
O'Brien, Bott & Story 300
Chandler, Craig & Cappeau 400
LeFever, " ..... rig
Barnhart, McTamany & Co No 1.... rig bldg
Smith, Calbert & Co..... rig
McKeever, Showalter Bros No 2 ... rig bldg
Tim Nolan, Brown, Hovis & Co..... sand
Aldinger, Kittanning Oil Co ..... rig bldg

Martinsburg.

Cannon, Edwards & Co No 4 ..... drilling
Turner, W J McKee No 5..... 800
" " No 6..... 400
" " No 7..... rig bldg

Alex Story, M P Black No 1..... 500
D P Kelley, Brawley No 36..... rig
John Kelley, Kelley & Co ..... rig
Widow Martin, Campbell & Murphy (fishing) ... 600
Mulligan, McTamany & Co No 1.... 300
Widow Witt, McGuire & Co No 3... sand
Shultz, Gordon & Hopkins 100
Wm Martin, Showalter Bros & Co.. 800

Thorn Creek.

Noel, H H Stow, No 2..... 150
Wallace, Sheidemantle (old) ..... rig
Mabarg, Pennell & Co (old)..... rig
Hartman Leidecker & Turner (old) rig
Mangell, Shniters & Co..... sand
McLaughlin, Clark, Reed & Sutton. 1200
Kennedy, Clark & Snee..... 1300

New rigs..... 14
Old rigs..... 10
Drilling..... 31
Total..... 55

Washington.

Gordon, P L & H Co No 2 2241
" " No 3..... rig
" " No 4 ..... rig
Hess, " No 1 (for gas). 2170
" " No 2..... 1700
M Lane, " No 3 1800
J S Wilson, Citizens' Oil & Gas Co (ab'd)..... 1850
Weaver, " No 1..... 650
" " No 2.... rig bldg
Hall, Vandergrifts No 1..... 1400
Weirich, " No 1 2150
Mrs Curry, " No 1..... rig
S Wilson, " ..... rig
Weirich, Union Oil Co..... 700
" " ..... rig bldg
McGovern, " 675
Weirich, Coal Sons & Co 700
Wylie, " ..... rig
Lead Works, Mulholland & Co 1000
" Caldwell & Marsh..... 250
Clark Heirs, R H Thayer & Stetheimer No 1.... 1650
" " No 2.... 600
Brownlee, Hallam & Co ..... rig
Clark Heirs, " ..... rig
Montgomery, Robbins & Co..... 2175

Barre, Pew & Emerson..... rig
Smith, Dyer & Co..... 2200
Davis, Conroy & Johnson..... 500
Cradle Factory lot, W S Guffey & Co 100
Shirs, Hovey Shirs..... rig
Lone Pine, Caldwell & Co..... rig
N E Claysville, Vandergrifts..... 1400
Reed, (near Wyland Station) Asso'd Prod Co.... rig
Zelt, A P Co & Union Oil Co..... rig bldg

New rigs..... 13
Drilling 21
Total 34

Miscellaneous.

SHOUSTOWN, MT. NEBO, ETC.

Neville Island, Geo H Dimick.... rig
Montour Run, (Smith farm) Dr Hunter.... rig bldg
Mt. Nebo, (P Richie farm) Frederick & Co.... 1600
" Robert Hanna, Dr Hunter.... rig bldg
" Union Oil Co ..... rig bldg
Rochester, (Rev Taylor farm) Gailey Bros No 4.... drilling
" (Trumpeter farm) Gailey Bros.... rig
Wood Lawn, (McDonald) " .... rig bldg
Economite tract, Economites (2 wells) drilling
Shoustown, (McCoy Heirs farm) Raccoon Oil Co.... rig bldg
" (Wm Hood farm) Raccoon Oil Co.... rig bldg
" (Agnew farm) " .... rig bldg

GREENE COUNTY.

Fordyce E M Hukill & Co No 1.... 1400
Gregg, " No 1.... 1350
Girard, " No 2 (shut down) salt water sand
Hathaway, E M Hukill & Co No 1 (shut down) salt water sand
Mt. Morris, L Donnelly, E M Hukill & Co.... rig
Longanecker, E M Hukill & Co .... rig
Vanee, Porter, Quick & Co 200

New rigs 11
Drilling 9
Total 20

Production of the White Sand Pools.

The white sand pools of late years have exercised an influence upon speculative values which cannot be measured by the amount of oil produced by them. When 646 opened her valve gates on May 18, 1882, the world appeared about to be deluged with cheap petroleum, and the crude market went down into the fifties. The close of 1882 witnessed the beginning of Cooper and Balltown. Since then Wardwell, Thorn Creek and Cogley Run have been added to the list, but the total results of all these pools, as measured by the pipe line runs, is just about equal to Bradford's output for the year 1884. In the appended table the Wardwell runs are as complete as it is possible to make them with the data that is available. In August the pipe lines included the Wardwell runs with the Glade section, and since then no separation has been made of the oil from this district. The Pittsburgh pipe lines received 103,967 barrels of oil from the Baldridge and Thorn Creek region in 1885. It will be seen that the total production of the six great white sand pools (including Cogley) for the past four years has been 12,234,262 barrels, and that the production of these pools has increased from 2,377,964 barrels in 1882, to 3,487,660 barrels in 1885:

	1882.	1883.	1884.	1885.	Total.
Cherry Grove	2,345,400	755,512	264,942	135 809	3,501,663
Cooper	29,864	1,095,558	1,004,849	340 924	2,471 195
Balltown	2,700	776,244	807,506	348,100	1,934,550
Wardwell	....	....	701,226	148,896	850 032
Baldridge	....	....	962,801	1,813,020	2,775,821
Cogley	....	....	....	70 ,001	701,001
Total	2,377,964	2,627,314	3,741,324	3 487,660	12,234,262

THE total visible supply of refined petroleum in England and on the continent December 26 was 1,038,028 barrels. In 1884, at the same date, the supply was 1,266,236 barrels. Two years ago it was 2,192,728 barrels.

The German Petroleum Trade.

The Deutsch-Russische Naphtha-Import-Gesellschaft, Berlin, which is the sole agent for the sale of the Caucasian petroleum of the Nobel Naphtha Production Company in Germany, is having a depot built at Lubeck, which will be completed early in 1886. Two large iron reservoirs are being built for the reception of about 33,000 centners (1 centner equals 110 pounds, avoirdupois) of refined petroleum, which will be conveyed in reservoir steamers from Libau, while the consignment into the interior of Germany will be done by the company's tank wagons. In order to make the oil well known the compony has had some 1700 casks brought to Lubeck where it is being retailed at from 15 to 20 pfennig per centner under American prices. The oil is being quickly adopted in this district. It has now been ordered that the police authorities must make tests of the petroleum offered for sale by dealers twice a year, and that of retail dealers once in two years, or oftener if they think fit, in case such dealers and venders do not certify that they have themselves made tests.—Bradstreets.

THE Augusta, Ga., Chronicle says: "When whales grew scarce petroleum was discovered in Pennsylvania, enormously enriching that mighty and opulent Commonwealth. When Alabama mines promised to undersell Eastern iron, natural gas was discovered in Pennsylvania and displaced coal. God is good to Pennsylvania."

Two companies will supply Meadville with natural gas: the Columbia Gas Co. and the Pennsylvania Gas Co. The Columbia obtain their supply from the McKeever gasser in Venango county. A branch line will run from Cochranton to Mercer, Greenville, Clarksville, Sharpsville and Sharon.

FIELD OPERATIONS SUMMARIZED.

WELLS COMPLETED, WITH THE ESTIMATED PRODUCTION ON THE LAST DAY OF THE MONTH.

ALLEGANY.

Division of Field.	DECEMBER, 1885. Wells.	Prod'n.	Dry.	NOVEMBER, 1885. Wells.	Prod'n.	Dry.
Scio	6	30	0	5	31	0
Alma	12	58	0	8	35	0
Wirt	11	67	0	14	72	2
Bolivar	7	32	0	6	35	0
Clarksville	14	84	2	17	84	2
Genesee	3	16	0	1	6	0
Miscellaneous	2	0	2	0	0	0
Total	55	287	4	51	263	4
Total November	51	263	4			
Difference	4	24	0			

BRADFORD FIELD.

Division of Field.	DECEMBER, 1885. Wells.	Prod'n.	Dry.	NOVEMBER, 1885. Wells.	Prod'n.	Dry.
E. and W. Branches	21	132	1	27	199	2
Kendall Creek	6	46	0	3	21	0
Foster Brook	7	41	0	14	107	0
Knapp's Creek	6	48	0	4	25	0
Four Mile	4	28	0	5	34	1
Indian & Meeks Creeks	8	56	0	7	43	0
Cole Creek	6	73	0	6	70	0
Kinzua	3	35	0	2	13	0
Miscellaneous	2	0	2	0	0	0
Total	63	459	3	68	512	3
Total November	68	512	3			
Difference	5	53	0			

WARREN AND FOREST.

District.	DECEMBER, 1885. Wells.	Prod'n.	Dry.	NOVEMBER, 1885. Wells.	Prod'n.	Dry.
Glade	15	258	3	18	165	4
Clarendon	34	197	0	23	128	1
Tiona	31	185	1	37	225	2
Cooper	3	29	0	7	156	0
Balltown	6	215	0	9	225	1
Kane	1	96	0	0	0	0
Miscellaneous	6	11	3	8	25	3
Total	96	991	7	102	924	11
Total November	102	924	11			
Difference	6	67	4			

LOWER COUNTRY.

D strict.	DECEMBER, 1885. We ls.	Prod'n.	Dry.	NOVEMBER, 1885. Wells.	Prod'n.	Dry.
Venango	53	414	14	50	521	13
Clarion	66	1562	9	84	2015	6
Butler and Armstrong	22	173	8	33	348	16
Total	141	2149	31	167	2884	35
Total November	167	2884	35			
Difference	26	735	4			

GAND SUMMARY.

District.	DECEMBER, 1885. Wells.	Prod'n.	Dry.	NOVEMBER, 1885. Wells.	Prod'n.	Dry.
Allegany	55	287	4	51	263	4
Bradford	63	459	3	68	512	3
Warren and Forest	96	991	7	102	924	11
Lower Field	141	2149	31	167	2884	35
Total	355	3886	45	388	4583	53
Total November	388	4583	53			
Difference	33	697	8			

Rigs Up and Building—Wells Drilling.

ALLEGANY FIELD.

Division of Field.	DECEMBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	NOVEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Scio	0	4	6	10	4	4	7	15
Alma	3	12	12	27	7	12	17	36
Wirt	9	1	21	31	10	1	17	28
Bolivar	4	3	7	14	7	3	8	18
Genesee	2	10	3	15	2	10	5	17
Clarksville	13	6	11	30	13	8	14	35
Miscellaneous	1	0	2	3	0	0	2	2
Total	32	36	62	130	43	38	70	151
Total Nov. 30	43	38	70	151				
Difference	11	2	8	21				

BRADFORD FIELD.

Division of Field.	DECEMBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	NOVEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
E. and W. Branches	6	16	15	37	15	15	23	53
Kendall Creek	4	1	4	9	4	1	6	11
Knapp's Creek	6	1	10	17	6	1	12	19
Foster Brook	6	3	13	22	9	2	11	22
Four Mile	4	3	1	8	7	2	2	11
Indian Creek	3	4	5	12	5	4	8	17
Cole Creek	4	3	7	14	3	3	6	12
Kinzua	2	0	3	5	4	0	3	7
Miscellaneous	2	0	3	5	0	0	5	5
Total	37	31	61	129	53	28	76	157
Total Nov. 30	53	28	76	157				
Differen e	16	3	15	28				

WARREN AND FOREST.

Divi ion of Field.	DECEMBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	NOVEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Glade	9	2	12	23	13	4	8	25
Clarendon	22	3	18	43	21	4	30	55
Tiona	33	3	24	60	34	2	30	66
Cooper	1	3	3	7	5	2	3	10
Balltown	3	0	7	10	4	0	7	11
Kane	17	0	15	32	2	0	5	7
Miscellaneous	10	1	5	16	5	1	1	7
Total	95	12	84	191	84	13	84	181
Total Nov. 30	84	13	84	181				
Difference	11	1	0	10				

LOWER COUNTRY.

Division of Field.	DECEMBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	NOVEMBER 30, 1885. New Rigs.	Old Rigs.	Drilling.	Total.
Venango	39	9	42	90	48	8	50	106
Clarion	32	11	35	78	35	12	70	117
Butler & Armstrong	14	10	31	55	20	6	39	65
Total	85	30	108	223	103	26	159	288
Total Nov. 30	103	26	159	288				
Difference	18	4	51	65				

GRAND SUMMARY.

Field.	DECEMBER 31, 1885. New Rigs.	Old Rigs.	Drilling.	Total.	NOVEMBER 30, 1885 New Rigs.	Old Rigs.	Drilling.	Total.
Allegany	32	36	62	130	43	38	70	151
Bradford	37	31	61	129	53	28	76	157
Warren and Forest	95	12	84	191	84	13	84	181
Low r Country	85	30	108	223	103	26	159	288
Total Dec. 31	249	109	315	673	283	105	389	777
Total Nov. 30	288	105	389	777				
Difference	34	4	74	104				

CONNELLSVILLE, Fayette county, Pa., has organized a natural gas company with a capital of $30,000, and will bore for the inflammable fuel.

Coshocton, Ohio. has also formed a company to prospect for natural gas. The capital stock of $6,000 is all taken.

THE Pennsylvania Salt Company at Natrona, Pa., with natural gas for fuel. is manufacturing seventy tons of salt a day. Needing a greater supply of fuel, three old wells. which had been filled up with salt water and rendered useless for years, were recently cleaned out. In one of the wells the flow of gas was as strong as ever, but in the other two the supply was found to be completely exhausted. This company is also drilling a couple of new wells.

Stocks Abroad.

Reports of stocks in London, Trieste, and the seven principal Continental ports, are summarized in the following statement:

STOCKS AFLOAT AND ASHORE.	Dec. 26, 1885. Barrels.	Nov. 21, 1885. Barrels.
Seven Continental Ports	807,421	1,010,147
London	220,407	281,905
Trieste	14,705	16,413
Total Stocks afloat and ashore	1,042,533	1,308,465
Decrease in stocks since November 21	265,932	

A detailed statistical table giving the stocks on hand, the stocks in vessels on the ocean, and the amount unloading from the vessels at the different ports, is appended, which shows at a glance the condition of affairs abroad and the increase or decrease as compared with the corresponding period of 1884. The shipments represent the amount of oil going to the interior of Europe from the seaports:

STOCKS IN FOREIGN PORTS DECEMBER 26, 1885.

PORTS.	Stocks week ending Dec'ber 21.		Stocks afloat week ending Dec'ber 26.		Loading. Week ending Dec'ber 26		Grand total stocks afloat and loading.		Receipts From July 1.		Shipments from July 1.	
	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.	1884. Barrels.	1885. Barrels.
London	------	130,707	------	58,700	------	31,000	------	220,407		362,872	------	367,594
Trieste	16,509	5,705	32,954	------	------	9,000	49,463	14,705	------	------	------	------
Bremen	545,256	294,015	24,918	13,745	43,500	65,500	613,674	373,260	394,980	306,526	581,194	460,581
Hamburg	128,248	63,417	34,605	12,672	26,800	18,200	189,653	94,289	637,328	585,267	683,794	702,692
Antwerp	193,054	26,743	39,392	73,994	28,500	52,500	260,946	153,237	634,489	445,365	606,728	525,582
Rotterdam	52,795	19,432	11,415	25,996	11,000	17,100	75,210	62,528	126,244	219,911	136,293	269,416
Amsterdam	32,194	3,189	13,038	43,512	7,500	.	52,732	46,701	132,444	108,643	141,186	132,825
Stettin	50,800	41,427	------	5,608	------	3,500	50,800	50,535	198,694	218,148	185,541	235,133
Danzig	19,960	23,570	3,261	3,301	------	------	23,221	26,871	60,736	55,557	49,351	46,356
Total	1,022,307	471,793	126,629	178,828	117,300	156,800	1,266,236	807,421	2,184,915	1,939,417	2,383,997	2,372,585

	1882.	1883.	1884.	1885.
Total stocks Continental Ports	1,326,970	1,301,291	1,022,307	471,793
Total afloat, " "	94,867	153,758	126,629	178,828
Total loading	93,000	92,900	117,300	156,800
Total	1,514,837	1,547,949	1,266,236	807,421
Afloat and loading for direct Continental Ports	------	100,100	------	------
" " " Baltic Sea, exclusive Stettin and Danzig	29,000	------	------	------
" " " Total Continental Ports	1,543,837	1,648,049	------	807,421
" " " Total London	274,261	455,679	------	220,407
" " " English harbors, exclusive London	60,000	89,000	------	10,200
Grand total	1,878,098	2,192,728	------	1,038,028

OFFICIAL STATEMENT—EXPORTS OF PETROLEUM, NOVEMBER, 1885.

BY WM. F. SWITZLER, CHIEF OF BUREAU OF STATISTICS, WASHINGTON, D. C., DEC 9, 1885.

CUSTOMS DISTRICTS.	MINER'L, CRUDE		NAPHTHAS		ILLUMINATING.		LUBRICATING & PARAFINE OILS.		RESIDUUM.		TOTAL.	
	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars.
Boston and Charlestown, Mass	------	------	------	------	859,018	97,975	6,774	1,893	------	------	865,792	99,868
New York, N. Y	3,127,816	246,241	264,331	28,831	20,196,312	1,883,041	625,578	153,851	1,344	107	24,215,381	2,312,071
Philadelphia, Pa	2,851,656	211,829	514,296	36,083	8,413,229	727,702	28,516	3,857	207,396	12,983	12,015,093	992,454
Baltimore, Md	------	------	------	------	805,305	67,918	3,008	1,825	184,842	9,035	993,155	78,778
San Francisco, Cal	------	------	------	------	------	------	------	------	------	------	------	------
All other districts	------	------	------	------	------	------	------	------	------	------	------	------
Total for October, 1885	5,979,472	458,070	778,627	64,914	30,273,864	2,776,636	663,876	161,426	393,582	22,125	38,089,421	3,483,171
Total for October, 1884	9,080,549	648,172	1,761,899	133,383	38,376,643	3,366,928	1,009,754	19 ,614	168,168	10,416	50,397,013	4,349,493
Total for 10 months ending Oct. 31, 1885	75,299,223	5,588,200	14,032,954	1,083,586	406,927,395	35,766,685	11,332,541	2,306,460	5,514,642	321,664	513,106,755	45,066,595
Total for 10 months ending Oct. 31, 1884	71,015,403	5,489,094	11,749,368	966,861	395,203,347	35,918,115	10,543,717	2 137,772	4,864,902	304,676	493,376,737	44,816,518

CRUDE QUOTATIONS FOR DECEMBER, 1885.

Day of Month and week.		BRADFORD.				OIL CITY.				NEW YORK.				PITTSBURGH.			
		Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed	Opened	Highest	Lowest	Closed
T	1	89	90½	86¾	88⅝	89⅛	90⅝	86⅞	88⅝	88½	90⅝	86¾	88½	89	90⅞	86¾	88⅜
W	2	89	89½	87⅛	88¼	89	89¼	87	88	88½	89¼	87	88¼	88¾	89¼	87⅛	88⅛
T	3	88⅝	92¼	88¼	91¾	88⅜	92⅛	88¼	91½	88¼	92¼	88⅛	91¾	88½	92	88¼	91⅝
F	4	91⅝	93⅜	89¼	90	91⅞	93½	89¼	90	91½	93½	89⅛	90	91¾	93½	89¼	89⅞
S	5	90	91¾	89⅛	91¼	90	91⅞	89⅛	91½	90¼	91⅞	89⅛	91⅜	90	91⅞	89⅜	91⅜
M	7	91¾	92⅜	90¾	91¼	92	92½	91	91⅜	91½	92½	90⅞	91⅜	91⅝	92½	91	91⅜
T	8	91¼	91¾	90¼	90¼	91	91⅛	90⅛	90⅛	91¼	91¼	90⅛	90⅜	91¼	91¾	90⅛	90⅛
W	9	88½	91⅜	88⅜	90½	88½	91½	88¼	90⅜	89	91⅝	88½	90⅜	88½	91¼	88½	90⅜
T	10	90⅜	91⅛	89⅝	90½	90¼	91⅛	89⅝	90½	90⅜	91¼	89⅝	90⅝	90⅜	91⅛	89⅝	90½
F	11	90⅛	91⅞	89½	91⅜	90¼	91¾	89½	91⅛	90¼	91⅞	89½	91¼	90⅜	91⅝	89⅝	91⅛
S	12	91⅜	91⅝	90¼	90¾	91⅝	91¾	90⅛	90⅝	91¼	91¾	90	90⅝	91⅜	91⅝	9 ¼	90⅝
M	14	90½	91⅜	90¼	90¾	90½	91⅜	90⅛	90¾	90¼	91½	90	90¾	90¼	91½	90¼	90¾
T	15	90⅞	91⅜	90¾	91¼	90½	91⅜	90½	91¼	90¾	91⅜	90¾	91⅛	90⅞	91½	90⅝	91¼
W	16	91¼	92¼	90⅞	90⅞	91⅝	92¼	91	91	91	92⅜	91	91	91¼	92¼	91	91
T	17	90⅞	91¼	90⅜	90½	91	91¼	90⅜	90½	91	91⅜	90⅜	90⅜	90⅞	91¼	90⅜	90⅜
F	18	90½	90½	89⅞	90⅛	90⅜	90⅝	90	90⅛	90⅝	90⅝	89⅞	90⅛	90⅜	90½	89⅞	90
S	19	90⅛	90⅛	88¼	88¼	90⅛	90⅛	88¾	88⅝	90¼	90⅜	88½	88⅝	90⅛	90⅛	88⅝	88⅝
M	21	88	88⅛	85⅛	85⅞	88¼	88¼	85⅜	8 ⅞	88¼	88⅜	85⅛	86⅛	88⅛	88¼	85¼	85⅞
T	22	86⅛	87⅜	85⅜	87¼	86	87⅜	85¾	87¼	86¼	87⅜	85¾	87¼	86⅛	87¼	85⅞	87⅛
W	23	87	88½	86⅝	88⅛	87¾	88½	87	88⅛	87	88⅜	86¾	88⅛	87	88⅜	86⅞	88⅛
T	24	88½	90½	88⅛	90⅛	88¼	90½	88	90¼	88	90½	87⅞	90¼	88⅛	90½	88	90⅜
F	25																
S	26																
M	28	90¾	90⅞	88	88	90¼	91	88½	88⅛	90½	91	88	88	91	91	88	88
T	29	88	88½	87½	88¼	88¼	88⅝	87½	88¼	88⅛	88⅝	87½	88⅜	88⅛	88½	87⅝	88¼
W	30	88¼	88⅜	87¼	87½	88¼	88½	87¼	87¼	88½	88¾	87¼	87⅞	88⅜	88⅜	87¼	87⅜
T	31	87⅛	88½	87	88¼	87	88½	87	88⅜	87	88⅜	87	88⅜	87⅛	88⅜	87⅛	88¾

The Refined Market.

The demand for refined oil has been moderate and prices have been marked down a half cent since November 30. Ocean freight rates have ruled lower in the absence of an urgent demand, but the foreign markets have been steady, the decline in America, producing but little effect.

Messrs. Mordaunt Bros. of London, under date of Dec. 23, report: Refined oil has been very steady during the past week. Prices are, if anything, a trifle in seller's favor, notwithstanding the fact of buyers holding off as long as possibly from supplying their wants in order to take advantage of the very low prices at which petroleum can be bought for delivery during the first three months of next year. The spot demand has been good, as usual at this season of the year, and rather large outside deliveries have been made for English outports. Forward deliveries still offer on most advantageous terms, and a considerable business has resulted. Water white American can still be had at last prices, and Russian has sold at from 7 1-8d to 7 1-4d.

Stocks in Europe, Dec. 26, were 228,208 barrels behind the amount on hand at same date in 1884.

Home trade in domestic oils is light. Quotations are 8 3-4 and 9c. for 110 test, 9 1-4 to 9 1-2 for 120 test, 9 1-2 to 9 3-4 for 130 test, 9 1-2c. for state test and 10 3-4c. for 150 test, water white. Naphtha is firm at 8c. for prime city. Refined in cases has been in active demand at 8 7-8c. for plain brands. The total clearances for December in this class of goods to China and the East amounts to 1,109,933 cases, an increase of 320,218 cases over the same month in 1884. The total clearances for the year, including 124,974 cases, missing or lost at sea, were 10,434,536, an increase of 1,051,620 cases over the previous year.

Mr. George H. Lincoln's monthly circular gives the following figures on the clearances of refined petroleum, in cases, for China and the East up to the 31st of December, for the years 1884 and 1885:

	1885. CASES.	1884. CASES.
CHINA—Shanghai, previously reported	1,751,491	794,902
" December	187,772	
Hong Kong, previously reported	799,263	708,027
" " December	53,300	
JAPAN—Yokohoma, previously reported	881,452	935,840
" " December	342,327	
Hiogo	941,603	649,995
Nagasaki	171,192	121,529
INDIA—Calcutta, previously reported	185,567	1,704,169
" December	143,950	
Bombay, previously reported	975,730	1,046,436
" December	60,164	
Kurraehee	96 263	51,505
Point de Galle	18,428	66,720
Madras	47,382	42,260
Rangoon and Colombo	194,255	304,743
JAVA—Batavia	780,628	502,866
Anjier	812,876	1,619,526
SINGAPORE	388,878	194,653
Penang and Singapore	———	28,900
Penang	169,975	229,522
Other Eastern ports	432,040	381,323
Total December 31	10,434,536	9,382,916
Total November 30	9,324,548	8,593,146
November clearances	1,109,988	789,770
Increase as compared with Dec. last year	320,218	

REFINED QUOTATIONS FOR DEC'R.

	New York	Philadelphia	Baltimore	London and Liverpool	Bremen	Antwerp
	Cts.	Cts.	Cts.	Pence.	Marks.	Francs
1	8 1/8	7 7/8	7 7/8	6 7/8	7.20	19 7/8
2	8	7 3/4	7 3/4	6 7/8	7.15	18 1/2
3	8	7 3/4	7 3/4	6 7/8	7.10	18 1/2
4	8	7 3/4	7 3/4	6 3/4	7.10	18 1/4
5	8	7 3/4	7 3/4	6 3/4	7.20	18 3/8
6						
7	8	7 3/4	7 3/4	6 3/4	7.15	18 3/4
8	8	7 3/4	7 3/4	6 7/8	7.15	19 3/8
9	8	7 3/4	7 3/4	7 1/8	7.20	19 1/8
10	8	7 3/4	7 3/4	7 1/8	7.20	19 1/8
11	8	7 3/4	7 7/8	7 1/8	7.15	19 1/8
12	8	7 3/4	7 3/4	7 1/8	7.20	19 1/8
13						
14	8	7 3/4	7 3/4	7 1/4	7.15	19
15	8	7 3/4	7 3/4	7 1/2	7.15	19
16	8	7 3/4	7 3/4	7 1/2	7.15	18 7/8
17	8	7 3/4	7 3/4	7 1/2	7 15	19
18	8	7 3/4	7 3/4	7 1/4	7.10	18 3/4
19	8	7 3/4	7 3/4	7 1/4	7.10	18 5/8
20						
21	7 7/8	7 5/8	7 5/8	7 1/4	7.10	19 1/4
22	7 7/8	7 5/8	7 5/8	7 1/4	7.10	19 1/4
23	7 7/8	7 5/8	7 5/8	7 1/4	7.00	19 1/2
24	7 7/8	7 5/8	7 7/8	7 1/4	7.00	19 3/4
25						
26				7 1/4	7.10	18 5/8
27						
28	7 7/8	7 5/8	7 5/8	7 1/8	7.00	19 1/8
29	7 7/8	7 5/8	7 5/8	7 1/8	7·00	19 1/2
30	7 7/8	7 3/4	7 5/8	7 1/8	7.00	19
31	7 7/8	7 5/8	7 5/8	7 1/8	7.00	19

The Buffalo Natural Gas Fuel Company.

The certificate of incorporation of the "Buffalo Natural Gas Fuel Company" was filed with the County Clerk of Erie county, N. Y., January 2. The incorporators are Daniel O'Day, Albert J. Wright, Orsemus G. Warren, George B. Matthews, Joseph P. Dudley, George F. Southard, John McManus, Wilson S. Bissell and Chas. W. Goodyear. The incorporation is made under an act of the Legislature passed February 16th, 1848, entitled "An act to authorize the formation of gaslight companies," and the acts supplementary to it. The objects are manufacturing and supplying gas for lighting the streets and public and private buildings in Buffalo, and to sell, manufacture and furnish such quantities of gas as may be required for that purpose. The capital stock is $250,000, and there are 2500 shares. The directors for the first year are Messrs. O'Day, Warren, Matthews, Dudley, Southard, McManus and Goodyear. The company has applied for permission to lay gas mains in the streets, and the three old gas companies will make it their business to urge plenty of objections to the new enterprise.

A GOOD vein of natural gas has been discovered in a well at Berea, Cuyahoga county, Ohio, fourteen miles from Cleveland.

BUTLER Borough has instituted an action in equity against the gas company of that city to compel them to shut off their gas, or give the borough a bond of $50,000 to indemnify it in case of any damage that may result from escaping gas.

A WELL on the Cherry farm, within three miles of Marietta, Ohio, is producing from 75,000 to 100,000 cubic feet of gas every twenty-four hours, and solves the problem of cheap fuel for the manufacturers and residents of the pleasant little village.

THE citizens of Monongahela City, Pa., have formed a new company with a capital stock of $10,000. It is known as the Billewood & Monongahela City Natural Gas Company. The territorial limit is Washington county and Forward township, Allegheny county.

PETROLEUM EXPORTS.

THE EXPORTS of Petroleum (refined, crude and naphtha) from all United States ports from January 1 to December 31, for the years 1884 and 1885, were as follows:

		1885.	1884.
From Boston	galls	8,541,913	7,495,071
Philadelphia		151,756,812	119,268,919
Baltimore		11,621, 53	15,158,733
Total	galls	171,920,578	141,922,726
From New York		370,850,375	384,521,437
Total Exports from United States		542,770,953	526,444,163

The appended table, from the *Shipping List*, gives the total Exports of refined, crude, naphtha and residuum from New York to foreign ports from January 1 to December 31, for the years 1884 and 1885:

REFINED.

	1885.		1884.
GT. BRITAIN—London	20,977,765		18,498,831
Liverpool	10,710,427		9,009,430
Bristol	5,29 ,031		3,824,381
Ireland	5,807,144		5,335,599
Other Ports	9,020,253		6,543,519
		51,805,620	
GERMANY—Bremen	19,951,210		25,638,611
Hamburg	31,602,582		32,545,982
Konigsburg and Stettin	9,109,244		6,768,171
Dantzic	1,934,828		1,102,897
Other Ports	1,021,577		1,372,183
		63,619,441	
FRANCE—Marseilles			
Havre			
NORWAY AND SWEDEN	5,923,883	5,923,883	5,454,902
RUSSIA AND FINLAND	694,289	694,289	188,822
DENMARK—Tuborg	957,102		
Aarhuns	476,489		
Aalborg	209,553		
Copenhagen	1,826,470		
Elsinore	1,842,815		
Kastrup	405,563		
Other Ports	348,998		
		6,066,990	7,780,317
BELGIUM	29,268,261	29,268,261	
			32,713,207
HOLLAND—Amsterdam	10,949,626		
Rotterdam	11,387,433		
Hartingen	119,298		
Finshing	534,242		
		22,990,599	15,657 198
Spain	5,096	5,096	370,960
Portugal and Azores	1,200,628	1,200,628	1,3 0,612
Gibraltar and Malta	988,140	988,140	3,337,780
Italy	2,362,550	2,362,550	2,191,084
Austria—Trieste, &c	2,010,654	2,010,654	6,281,043
Greece	612,290	612,290	1,095,010
Turkey in Europe	1,962,124	1,962,124	3,572,180
Turkey in Asia	2,070,060	2,070,060	3,463,195
Arabia	760,000	760,000	
INDIA AND SIAM—Bombay	9,744,400		
Calcutta	12,805,650		
Point de Galle and Colombo	1,150,400		
Bankok	804,130		
Kurrachee	962,630		
Madras	473,820		
		25,941,03	28,699,200
CHINA & JAPAN—Shanghae	18,572,700		
Hong Kong	8,159,650		
Yokhama	10,897,380		
Saigon	1,007,310		
Tientsin	258,000		
Nagasaki	920,000		
Hiogo	750,370		
		40,565,410	27,306,720
EAST INDIES—Anjier	7,925,170		
Batavia	7,806,280		
Hoilo	201,000		
Manila	537,750		
Padang	1,457,750		
Penang	1,292,410		
Rangoon	2,939,070		
Singapore	200,000		
Banjermassin	271,500		
Macassar	50,800		
		22,681,730	28,762,320
AFRICA—Alexandria, &c., E	2,987,660		3,483,440
Canary Islands	202,304		182,379
Other Ports	3,579,321		6,0 6,635
		6,769,285	
Australia	4,722 326	4,722,326	2,813,836
New Zealand	1,699,540	1,699,540	858,451
Sandwich Islands	289,500	289,500	223,580

REFINED—CONTINUED.

	1885.		1884.
SOUTH AMERICA—Brazil	6,847,669		6,110,077
Argentine Con. & Uruguay	3,241 810		5,893,250
Chili and Peru	1,670,738		1,054,014
United States of Colombia	523,655		465,257
Venezuela	585,780		727,596
Other Ports	48,030		67,101
		12,417,682	
Central America	317,657	317,657	306,094
Mexico	1,167,310	1,167,310	1,215,032
British North American Colonies	1,498,125	1,498,125	1,388,097
Cuba	415,488	415,488	420,761
British W. Indies & B. Guiana	1,876 909	1,876,909	1,545,726
Other West Indies	1,385,515	1,3-5,515	1,239,512
Total galls	314,088,132	314,088,132	312,914,992

CRUDE.

	1885.		1884.
FRANCE—Havre	8,864,772		9,146,170
Marseilles	2,528,158		4,620,174
Bordeaux	2,013,055		2,434,925
Dunkirk	7,048,409		6,741,170
Cette	5,160,504		9,883,893
Rouen	1,067,585		
Les Sables o' Ollone	668,807		
St. Lonbes			
Blaye	1,214,479		
Dieppe	1,380,977		
		29,086,746	
Bremen	3,353,547	3,353,547	5,114,255
Austria—Fiume	423,815	423,815	
Norway and Sweden			
SPAIN—Alicante	2,219,667		15,113,436
Pasages	938,499		
Bilboa	2,103,296		
Barcelona	787,084		
Carthagena	42,678		
Corunna	1,452,524		
Malaga	556,990		
Santander	675,890		
Seville	955,015		
Tarragona	659,065		
Valencia	1,124,552		
Palma	203,340		
		11,718,708	
Cuba	3,206,222	3,206,222	2,857,8 2
Other Ports			6,070,624
Total galls	48,599,038	48,599,038	61,982,499

NAPHTHA.

	1885.	Total.	1884.
Great Britain	4,265,075		4,483,110
France	1,922, 68		3,414,282
Germany	623,286		521,780
Other Europe	1,268,656		983,201
Various Ports	83,820		221,573
Total galls	8,163,205		9 623,946

RESIDUUM.

	1885.	Total.	1884.
To all Ports galls	3,728,850		3,941,795

Total Refined since January 1, actual shipments, galls., 314,088,132, Crude equivalent ..... galls. 418,784,176
Total Crude since January 1, actual shipments 48,599,038

Grand Total Crude and Crude equivalent ..... galls. 467,383,214
Same time, 1884 480,765,290

The following table shows the number of vessels loading and to load with Petroleum at the principal American shipping ports, January 8, 1885:

PORTS.	Refined Bbls.	Refined Cases.	Crude	Naphtha	Residuum	Total
New York	28	42	11	1	1	83
Philadelphia	19	10	6	1	0	36
Baltimore	5	0	0	1	0	6
Boston	0	0	0	0	0	0
Total Jan. 8	52	52	17	3	1	125
Total Dec. 1	45	40	19	1	2	107
Difference	7	13	2	2	1	18

THE WASHINGTON OIL FIELD.

RECORDS OF IMPORTANT WELLS—ROCK FORMATION OF THE COUNTRY AND BASIS FOR ESTIMATING DEPTHS TO THE SANDS—THEORIES OF DEVELOPMENT.

THE operator who goes from the wilds of McKean, Elk, Forest and Warren to Washington county will be startled as well as pleased with the change in the appearance of the country. Slashings almost impassable, which give a rough setting to the Craig & Cappeau well near Kane, and the sombre hemlocks that hide the derricks in many of the old fields are exchanged for large farms of fertile fields in a high state of cultivation and the rude shanties and huts found in the northern section are in striking contrast with the grand farm houses which dot at long intervals the beautiful valleys and gently rising hills which make a picturesque landscape about the quaint old town of Washington. The farmers, too, are a different class from that with which the oil men have met in days gone by. Washington and Jefferson college has unpretentious buildings, but from its portals a throng of men have gone forth whose names shed a lustre around it and give it a rank with the ivy-entwined colleges of the land. It has leavened the whole community, and many of the farmers' boys have emerged from its halls on the broad avenues of intelligence. And the man who goes to Washington to-day in quest of accurate information concerning the oil development of the field will find the records of the wells drilled, and carefully preserved specimens of the rocks, in the farm houses. It is a beautiful country, rich in historic memories, and if the rock structure were as fair to cut with the drill as the surface is fair to look upon the record of the field would be quite different from the one which is told for the year 1885.

The oleaginous history of the field up to this writing is most simply told by giving a history and record of the wells which have been drilled for oil. The field was first brought into prominence by local capital and by well-to-do citizens who could drill test wells without making any great sacrifice. Hence it may be said that the new field is without a hero so far as its oil development is concerned. As many records and as much of historical interest as we have space to publish are presented in this setting of this latest and perhaps the greatest of the new fields. The map of the field which was published in the December number can be consulted in perusing this article.

PIONEER VENTURES.

The Niagara Oil Co., of New York, commenced leasing lands in Washington county in 1880 and were the first to drill wells below the deep sands and make thorough tests in the country. Their first well was commenced in May, 1881, on the Alexander McGuigan farm, eight and three-quarter miles northwest of the Gantz well. They were unfortunate with this well, lost the tools, and had to abandon the hole when down 1000 feet. A second well was started within a short distance of the first and resulted in the famous McGuigan gas well, one of the largest ever struck in the county. Salt water was found at 1600 and the great volume of gas at 2287. Some parties claim that the gas was tapped at 2237. An attempt was made to shut off the salt water with 3¼ inch casing but it failed, and at last accounts the well was flowing about six barrels of the briny fluid per day. The following record of the well was furnished by Mr. Fred Crocker and published in the March number of the AGE, 1885:

	DEPTH.
Vein of coal 3 to 5 feet thick	180
do 10 to 15 feet thick	255
Red Rock	470
Cased, first time 5⅝ inch	542
Grey Limestone	725
Sand	730
First Sand	762
Bottom First Sand	802
Cased, 4¼ inch Casing	795
Second Sand	865
Through Second Sand	900
Brown Sand	920
Shell	982
Third Sand	988
Gas Vein	998
Bottom Third Sand	1028
Fourth Sand (Black)	1100
Through Fourth Sand	1155
Fifth Sand	1266
Through Fifth Sand	1350
Slate—15 feet	
Sixth Sand	1365
Crevice—1312 feet to	1446
Seventh Sand	1578
Through Seventh Sand	1588
Eighth Sand	1850
Red Rock	1965
Soapstone	1995
Ninth Sand	2035
Gas Vein (large)	2287

It is said that the gas which came from the well was so strong that it flamed one hundred and fifty feet from the end of the pipe. The pressure was estimated at 800 pounds per square inch.

The Niagara Oil Co.'s well on the Buchanan farm in Hopewell township, eight and a half miles northwest of the Gantz, was drilled over 4300 feet below the surface and is one of the deepest wells in the United States. Mr. Crocker claims that a red sand was encountered at this great depth which contained some oil. The second bit was run about twenty minutes and in pulling the tools they dropped when about 2000 feet from the bottom. Another string was lost in fishing for the first, and the hole is now effectually plugged with about two tons of iron and steel. The following is the record of the well as furnished by Mr. Crocker:

	DEPTH.
Coal	278
Red Rock	450
Brown Sand	617
Grey Limestone	675
Sand	686
First Sand	715
Cased	762
Second Sand	913
Coal Blossom	1190
Through thick second sand	1427
Sand	1627
Sand	1910
Red Rock	2000
Sand and Gas	2090
Sand and Oil, gas with little oil	2260
Red Rock	2492
Brown Sand	2825
Sand	3055
Oil Sand and Shell	3600
Sand	3750
Red Rock	3960
Soapstone	4010
Sand	4160
Bradford Sand	4305

The well on the Emery farm, drilled by the Niagara Oil Co. is a good gas well from the Gantz sand. It is situated west of the town of Hickory and northeast of the McGuigan gasser.

The Venice well in Cecil township was also drilled by the Niagara Oil Co. It produces some oil, gas and salt water. It has been drilled to the Gantz sand.

The Fishers drilled a well on the Connors farm in

Cecil township to the Gordon sand and shut it down. The trade has yet to hear anything about oil being found in the deep sand in this locality.

THE GANTZ WELL.

The history of the field fairly begins with the striking of oil in the Gantz well on the last day of December, 1884. The well is owned by the Citizens' Oil and Gas Co., a company organized in opposition to the People's Light and Heat Co. When first formed its capital stock consisted of 300 shares of $100 each. Toward the close of December it was ascertained that J. C. Fisher had purchased as many as 65 of the 300 shares, and stock which at first sold for $40 per share was then worth $100. When the company learned that the Fishers were buying up the stock they had the owners of shares sign an agreement that the members of the company should have the first privilege of buying stock before outsiders were allowed to purchase.

The well is located on the western side of the town on the Gantz mill property, between the Chartiers Valley Railroad and a branch of the creek of the same name. The mouth of the well is about on a level with the railroad at the depot, so that the elevation of the top of the Gantz sand below tide at this point is easily determined. Contractor W. C. Marr's complete record of the well was published in the March number of the AGE for 1885. The well has been in an experimental condition all the year and the amount of oil which it has produced is not a fair estimate of its possibilities as a producer.

Oil was struck at the well on the evening of December 31st, 1884. They drilled a half hour New Year's morning and at 1 P. M. the well had filled up 1200 feet with oil. By the 10th of January the oil had risen to the top of the casing, when a shut-off valve was arranged and a sand cap attached to the casing head. The 600 barrel tank was completed January 19th, the stop cocks were turned and the well made its first flow—of about fifty barrels. January 26th the well contained 2000 feet of fluid, was agitated by running bailer and made a flow of about thirty barrels. On the 6th of February, 1885, at 5:25 P. M., the well was given a forty quart shot and made a flow at 6:20 P. M. The torpedo caused the well to bridge over at the bottom of the casing. After oil was struck at the Gordon No. 1 and the existence of a new sand horizon was demonstrated the drill was started for the Gordon sand. They were drilling and fishing early in November, and on the 25th of November, 1885, the derrick was boarded up and the drill was supposed to be near the stray sand above the Gordon. They struck the Gordon sand December 12th at a depth of 2416 to 2418 feet, and December 21st were twenty-three bits or eighteen feet in the sand. The total depth of the well is 2437 feet.

The Pittsburgh coal is reported at a depth of 345 and 349, hence the Gantz sand must have been reached about 2150 and the top of it is about 1119 feet below tide; taking the elevation of the railroad at this point 1031 feet above tide. The top of the Gordon sand at the well is 1385 feet below ocean level.

With the exception of two bits the Gordon sand was fine and hard and the well did not show very much improvement while being drilled through it. Up to January 1st, 1886, the total shipments of oil from the Gantz well were 1408 barrels. Its blackened derrick is one of the features of interest of the town, and while not a large well it is causing two others to be sunk on adjoining locations up the creek. It is truly the "Golden Gantz" to the good people of Washington county. On the 15th of January it was being pumped half the time and its production is reported at sixty barrels per day.

THE FARLEY WELL.

R. H. Thayer & Stettheimer's well on the Farley farm, now owned by the P. L. & H. Co., is located one mile northeast of the Gantz. It was drilled eighty-five feet below the top of the Gantz sand without finding oil in paying quantities and sold with the lease of the farm of 137 acres to the P. L. & H. Co. for its gas. At the time the sale was made the Gordon sand was unknown, and it now looks as if Messrs. Thayer & Stettheimer let a fortune slip through their grasp when they parted with the farm. But time and the center bit will tell the story. Below is Prof. E. Linton's record of the well on the Farley farm from the Pittsburgh coal down to 1717 feet. Prof. Linton was obliged to leave town when this depth was reached and no record was kept from 1717 down to 2200, when the Gantz sand is reported to have been struck. From 2200 to the bottom the record was preserved by Mr. R. H. Thayer.

	Thickness of Strata.	Depth to Bottom of Strata.
Pittsburgh coal	7	382
Sand stone	65	447
Shale (black and red mixed)	70	517
Red shale	30	547
Lime stone	5	552
Fine grained sand stone contain'g salt water	50	602
Black shale	25	627
Variegated shale	60	687
Hard sand stone	20	707
Black shale (slate)	37	744
Fine grained sand stone	17	761
Variegated shale (red, greenish, etc.)	34	795
Hard gray sand stone	11	806
Slaty sand stone, dark and dark gray	79	885
White sand stone	17	902
Dark shale with some sand stone	40	942
Fine grained gray and dark slaty sand stone	36	978
Hard fine grained white sand stone	16	994
Dark colored sand stone with lime stone	4	998
Dark sand stone with slate	47	1045
Variegated slate with dark sand stone	8	1053
Limestone, dark above, light colored below	11	1064
Dark shales, three feet, collected at 1100	42	1106
Hard slaty shale with quartz in lime stone, slate and shells	6	1112
Dark shale and sand stone	23	1135
White quartz and sand stone	11	1146
Compact close gray sand stone with salt water at 1150	10	1156
Gray and dark shale and sand stone	59	1215
Fine grained gray sand stone	9	1224
White sand stone	32	1256
White and dark sand stone mixed	17	1273
Fine white sand stone	30	1303
Coal	1½	1304½
White quartz in sand stone / Salt water at 1335 and 1342	63½	1368

Cased at 1360. The sand stone from 1349½ to 1360 has a great deal of dark sand in it.

Dark sand stone with alternating streaks of white sand stone	17	1385
Dark shale (slate)	10	1395
Dark shale and hard sand stone slate and shell	5	1400
White quartz sand stone	8	1408
Black shale (slate)	4	1412
Fine white quartz in sand stone	2	1414
Black shale and coal	2	1416
Close grained sand stone and dark shale slate and shells	1	1417
Gray and dark shale (slate)	63	1480
Lime stone and shale	5	1485
Lime stone	22	1507
White quartz sand stone calcareous	56	1563
Coarse dark sand stone with lime stone	2	1565
Coarse gray sand stone	18	1583
White sand stone	2	1585
Coarse gray sand stone	3	1588
White sand stone	19	1607

Coarse white and gray sand stone	12	1619
Fine white sand stone, one foot dark sand stone, 1663 to 1664	66	1685
Black slate and little dark sand stone at 1686	2	1687
White sand stone	30	1717

* * * * * * *

Mr. Thayer's record from 2200 to 2285 is as follows:

White sand and gas at	2200
Streak coarse pebble	2205
White sand	2210
Slate	2210 to 2214
White sand	2214 to 2225
Pebbles and heavy gas at	2225
White sand	2225 to 2230
Slate	2230 to 2245
White sand to	2260
White sand (oil)	2260
White sand	2275
Slate	2285

where stopped drilling.

The Pittsburgh coal at this well was reached at 375 feet. According to this data the Gantz sand should have been struck at 2183 and the drill was stopped over 100 feet below this level, and 165 feet above the top of the Gordon sand. The well sprays a small amount of oil and is a good gasser.

THE GABBY WELL.

Pew & Emerson's well on the William Gabby farm is located 360 rods southwest of the Gantz and 460 rods southeast of the Gordon No. 1. The drill was started on this well on the 18th of May and had not ceased to vibrate as late as December. One of the drillers, Charles Barrows, gave the following data concerning the well. It took twenty-five feet of conductor to reach the bed rock. The well is cased with 620 feet of 7⅝ easing and 1425 feet of 5⅜. Two caves were found, together having a thickness of 80 feet, between 600 and 700 feet below the surface. There was a showing of oil from a sand eleven feet in thickness which was struck at a depth of 984 feet. Salt water was encountered between the cave rock and the first oil. About half enough to drill with was discovered between 1700 and 1800 feet. The Gantz sand was struck at 2294 and they were through it at 2314. The Gordon rock was tapped at 2548. After drilling in this sand twenty feet its color changed and became much darker than the regulation hue of the Gordon sand. The drill stopped 2609 feet below the surface. The well filled 600 feet on one bit in the Gantz sand, and flowed two or three times while they were drilling through it. The Gabby was shot on the 14th of December, the owners neglecting to first test its natural producing qualities. It was given a one hundred quart shot in five shells or sections, each having a length of eight feet, the torpedo covering forty feet of sand. There was about 2000 feet of fluid in the hole when the torpedo was exploded, and between 700 and 800 feet of it was salt water. The well made a flow of 25 barrels within an hour after it was torpedoed. On lowering the tools it was found that the well had bridged twice, the upper point being 180 and the lower 60 feet from the bottom. On the 26th of December the well had been cleaned out as far down as 80 feet from the bottom, which was above the top of the Gordon sand, tubed, and was pumping salt water. The drillers could not notice that the showing of oil improved after they had penetrated the Gordon sand. At best the Gabby well will be a small producer from all sands.

PEOPLE'S LIGHT AND HEAT COMPANY.

One of the institutions of the Washington oil field which will astonish Bradfordians, is the People's Light and Heat Company, and any man who has settled gas bills in Bradford and moves to Washington, will think the millenium has come. The People's Light and Heat Company was organized in January, 1883. The object of the organization was to furnish the town of Washington with natural gas at fair rates. And it might be remarked here that the stockholders are not aliens, they do not bribe the press of Washington and nobody has said that the Mayor or Burgess of the town ever made a personal effort to get the councils to sell the exclusive right of supplying the place with natural gas to this company. In fact, the attitude of the Burgess is not that of a hired man of the People's Light and Heat Company.

The capital stock of the P. L. & H. Co. of Washington was $25,000. They have neither opposition nor competition, yet their rates are lower than those for natural gas in any town or city in the United States. For a cook stove the year round they charge $1.00 per month, for a heating stove, $1.00 per month, and for the second heater 75 cents per month. The money is paid any time during the last fifteen days of the month, when the collector calls for it. The officers of the company for 1885 were: A. B. Caldwell, President; Jas B. R. Streator, Secretary; Sam. Hazlett, Treasurer. The above officers, with Dr. McCleary and A. M. Todd, are the directors.

The company has wells on the Hess, Harvey, Hough, McNary and Farley farms, within a range of two and a half miles from the town. In drilling the Gordon No. 1 for gas they struck oil, and having all the territory they need, they are fairly embarked in the producing business.

HESS NO. 1.

The P. L. & H. Co.'s No. 1 on the Hess farm is located 200 rods northeast of the Gordon No. 1. It was drilled for gas and finished on the 30th of April, 1884. At this well the lime stone rock was found ten feet below the surface. Well was eased 516 feet with 5⅜ casing. Found the cave at 900 feet. Reached the Gantz sand at 2050 and struck the gas at about 2060 feet. This well has since been drilled about eighteen feet and is fishing at 2080 feet. The Pittsburgh coal vein was reached at a depth of 249. At this well oil was found in the Mahoning sand stone at a depth of 678 feet. Its gravity was 40.

THE GORDON NO. 1.

When a new sand horizon about 267 feet below the top of the Gantz was demonstrated to exist the flagging hopes of operators who had invested in the field revived and a new impetus was given to operations in the field. The following is the record and history of the well as furnished by the owners:

Conductor	10	feet.
Cased with 7⅝ easing	520	"
" 5⅜ "	1298	"
" 4¼ "	1670	"

Between 400 and 1000 feet they found four caves. Salt water was tapped at three places. The lowest vein was reached at 1540 feet.

The Gantz sand was struck at	2113	feet.
and they were through it at 2143 feet.		
The Gordon sand was reached at (cable measurement)	2380	"
By steel line measurement the depth was	2384	"
Depth of well	2400	"

The rock structure from the top of the Gantz sand is recorded as follows:

Gas part of the sand	8	feet.
Sugar colored sand (brown)	10	"
Gray sand	20	"
Slate	2	"
White sand hard (50 foot)	50	"

Red sand	5	feet.
Slate (black and soft)	107	"
Bowlder	5	"
Top of Gordon stray	2323	"
Showing of oil at	2341	"
Bottom stray	2380	"

Well flowed hard when a depth of 2360 was reached. The owners do not agree on the classification of the rock and some of them call it stray sand from 2323 down to 2380, which would make fifty-seven feet of stray sand. They began drilling with an oil saver at a depth of 2380 feet. Four bits were run after striking the Gordon sand. From the top of the Gantz sand to the top of the Gordon rock in this well the distance is 266 feet.

The Gantz sand was struck at the Gordon No. 1 August 5th and the Gordon sand on the 23d of the same month. Drilling was stopped on the 17th of September. The sales of oil by the month up to December 6th were as follows:

DATE.	Barrels.	Gulls.
August	171	—
September	1383	32
October	2732	14
November	2538	20
December 6th	602	18
Total to December 6th	7428	

The total sales up to January 1st, 1886, were 8957 barrels. The last day they drilled, September 17th, Mr. Montgomery said the well produced 175 barrels, though it is generally credited with 140 barrels as its best day's yield.

GORDON NO. 2.

The Gordon No. 2 is owned by the People's Light and Heat Company and is situated on a little terrace along the banks of the Chartiers Creek, close to the boundary line between the Gordon and Weirich farms. It is almost due south from the Gordon No. 1. Mr. A. J. Montgomery furnished the following record of the well:

Conductor	10	feet.
Cased with 7⅝ casing	600	"
" 5⅝ "	1387	"
Gantz sand at	2143	"

Mr. Montgomery reports the Pittsburgh coal at this well at a depth of 336 feet, hence the distance from it down to Gantz sand is 1807 feet. The Gordon No. 2 made a flow on the night of December 14th and burned the rig. The oil comes from the fifty foot, a formation between the Gantz and the Gordon sands, and the well is demonstrated to be a fair producer from this sand The scouts report the well producing twenty-five barre s per day from this sand on the 9th of January. The deep sand should be reached this month.

THE VANDERGRIFTS.

Captain J. J. and T. J. Vandergrift are largely interested in Washington territory. They have a large area, which is already demonstrated to be good, and hundreds of acres remote from producing wells which they are now testing for gas and oil. They are operating under the firm name of the Vandergrifts and are represented in the field by Mr. H. C. Babcock. Their No. 1 well on the Weirich, south and across the line from the Gordon No. 2, is a profitable producer from the fifty foot. On the 8th of January the gauge was sixty barrels and the drill had reached the bottom of the "fifty foot." They have the Gen. John Hall farm of 373 acres.

THE CLAYSVILLE WELL.

At Claysville, nine miles southwest of Washington, the Claysville Heat and Light Company have encountered many difficulties in drilling a test well. The tools were lost in the first hole at a depth of 1400 feet. The rig was moved and a second hole was drilled to a depth of 700 feet when another protracted fishing job was in order. After the local parties had become weary of angling W. C. Marr was employed to clear the hole. On the 5th of January a depth of 1600 feet had been reached, and the stockholders at a meeting adopted resolutions prohibiting all disinterested parties from visiting the premises. Should they find oil this resolution would, of course, be carefully considered by the scouts. Salt water was struck between 1100 and 1200 feet and some gas was found at a depth of 900. The Vandergrifts are drilling for gas six miles southwest of Claysville and within two miles of West Alexander. They are also drilling an experimental well on the McManus farm, four miles northeast of Claysville.

THE WAYNESBURG WELL.

The Waynesburg well is located at Waynesburg, near the center of Greene county, about twenty miles southeast of Washington. It was drilled by the Waynesburg Gas Company. Wilson & Long were the contractors and Charles Barrows and Walter Gray the drillers. It was cased between 700 and 800 feet with 5⅝ inch casing. Salt water was encountered in several places and some gas was found. A pebble sand was also discovered and when three bits in this sand the tools dropped 1200 feet and have not since been recovered. The drillers report about the same slates, red rocks and caves in this well as are found in the wells about Washington.

THE SMITH FARM WELL.

Dyer & Co.'s, or the Belmont Oil Co.'s well, on the Smith farm, three and a quarter miles northeast of the Gordon No. 1 and about two and a half miles northeast of the Gantz well, came in on the 5th of January at a stunning gait and has since astonished the trade by flowing in its present condition over 400 barrels per day. Soon after oil was struck in the Gantz, Col. E. H. Dyer, with Phil W. Roth and Jacob Peffer, leased seven farms at an eighth royalty northeast of Washington, in North and South Strabane townships, comprising an area of 885 acres. They consisted of the A. Smith farm of 105 acres, the J. & G. M. Cameron of 160, in South Strabane and the C. E. Carothers of 85 acres, the Robert Munnel of 120, the Josiah Wright of 155, the Thomas McGahey of 110 and the Lizzie McGahey of 150, in North Strabane. Besides this group they leased the James Gabby of 94 acres, situated southwest of the town of Washington, making a total of 979 acres. To get their leases tested they gave a half interest in the bundle to L. F. Willets, Charles Youngs, and E. W. Coleman, if they would complete a well; so that each of the six gentlemen mentioned above has a sixth interest in the well and leases of the Belmont Oil Company. The well was located on the southwestern corner of the A. Smith farm, and the drill began to vibrate last April. On the 20th of December the writer interviewed Col. Dyer concerning the well on the Smith farm, and got the following record: A conductor four feet in length reached the bed rock. The well was cased with 365 feet of 7⅝ casing and 1565 feet of 5⅝ casing. The Gantz sand, according to the Colonel's record, was struck at a depth of 2135 and on the 19th of December they were drilling near the bottom of it. They found considerable oil in the Gantz sand and quite a large amount of gas, so that the oil came out in the form of spray. The Pittsburgh coal is reported to have been found at a depth of 335 feet. According to the above data it is 1800 feet from the Pittsburgh coal down to the top of the Gantz

sand in this well. On the afternoon of January 5th it was currently reported in the different exchanges that the Dyer well on the Smith farm was large. The scouts were congregated at Kane, and the information which first came on from the district was rather indefinite and the want of tankage prevented exact measurements from being taken. One 600 tank was erected at the well before oil was struck and they now have one 250 tank. three 600 tanks and one 1200: a total capacity of 3250 barrels. Superintendent Smedley has been in the field and a pipe line has been laid with all speed from the well to the 35,000 barrel iron tank on the General Hall farm, four miles distant.

Mr. P. W. Roth expressed the opinion that the well was getting its oil from the 50 foot and that it was only a short distance in the sand. Before it is drilled deeper careful measurements will be taken and then this prolific crude horizon will be located. This last strike in the Washington field has made operating attractive in spite of many discouraging features in the way of troublesome caves and deep salt water veins.

THE PITTSBURGH COAL BED.

The Pittsburgh coal bed is widely spread over the southwestern part of the State. and about Washington has a thickness of from five to eight feet. It has such narrow limits of variation that the pioneer operators have adopted it as a datum or basis from which to estimate the depth to the Gantz or gas sand. From observations at various wells it has been determined that the distance from the Pittsburgh coal down to the top of the Gantz sand is 1808 feet. The distance varies from 1800 to 1808 feet. Mr. A. J. Montgomery, who is authority on all matters pertaining to the Washington county wells, uses 1808 in his calculations. In Volume K of the Geological Survey the Pittsburgh coal bed is described as follows: "With rare exceptions this bed is double. consisting of a roof and a lower division separated by a clay parting which varies in thickness from one-fourth of an inch to nearly three feet. and frequently contains the strings of coal which are connected with the roof division. The roof division shows extreme variations. Its thickness is from two inches to eight feet. but there is a distinct increase in thickness northward. The lower division of the Pittsburgh coal is from three feet six inches to nine feet thick, and contains three persistent partings. usually thin. which divide it into four benches. known as the "Upper." the "Bearing-in." the "Brick" and the "Lower Bottom." The thickness of the whole lower division of the Pittsburgh bed diminishes northward."

Mr. Montgomery has collected the following depths of the Pittsburgh coal at the different wells:

NAME OF WELL.	Depth to Pittsburgh Coal Bed.	Distance from Pittsburgh Coal to top Gantz Sand.	Depth to Gantz Sand.	Distance from Gantz to top Gordon Sand.	Depth to Gordon Sand.
Hess No. 1	249	1801	2050	----	----
" No. 2	262	----	----	----	----
Gordon No. 1	305	1808	2113	267	2380
" No. 2	336	1807	2143	----	----
Montgomery No. 1	320	----	----	----	----
Vandergrifts' No. 1, Hall farm	262	----	----	----	----
" Weirich farm	----	----	----	----	----
Gantz No. 1	349	1801 est	2150	266	2416
Mulholland	351	----	----	----	----
Smith, Dyer & Co.	335	1800	2135	----	----
Gabby No. 1	48	1814	2294	254	2548
Farley, P. L. & H. Co	375	----	----	----	----
Wilson	490	----	----	----	----
Hervey No. 1	140	----	----	----	----
McNary gas well	135	----	----	----	----
McClane, P. L. & H. Co.	42	----	----	----	----
Clark, Thayer No. 1	315		----	----	----
Claysville	440	----	----	----	----
Leader Works (Mulholland & Co.)	343	----	----	----	----
McGovern No. 1 (Union Oil Co.)	392	----	----	----	----
Weirich No. 1 (Union Oil Co.)	363	----	----	----	----

All available records show that the depth at which the Gantz sand will be struck can be ascertained by adding from 1800 to 1814 feet to the depth at which the Pittsburgh coal vein is reached. The distance from the top of the Gantz rock down to the Gordon ranges from 254 to 267 feet. When wells are drilled over a wide range of territory and more data obtained these figures may be subjected to considerable change.

THE CAVES.

The caves, salt water veins and the great depth at which the sand is found make drilling slow and expensive. Mr. Montgomery has two samples of the cave rock on exhibition at his farm house. One is of a light color and was found 519 feet below the surface. Under this occurred a streak of slate and then a red rock was found, having a thickness of thirty feet. which became soft and ran in when it came in contact with the water.

At the Gordon No. 1 four layers of the cave rock were found between 400 and 1000 feet. Two streaks of the cave were drilled through at the Gabby between 600 and 700 feet below the surface.

At the Montgomery No. 1 the drillers were bothered with forty feet of cave at 600 feet below the surface.

THEORIES OF DEVELOPMENT.

Up to the present writing it has been difficult to formulate theories concerning the lines and extent of the oil development of Washington county. One must go nearly nine miles in a northwesterly direction from the Gantz well before dry holes are found in the deep sands. There are no failures to the east of the town of Washington to condemn the country beyond the Dyer or Belmont Oil Company's well on the Smith farm. According to the record published elsewhere the Pittsburgh coal vein at the Thayer well on the Farley farm was struck at 375 feet. If this depth is correct the Gantz sand should have been reached at 2183 and the well would now be below oil in the fifty foot and there would be no continuous belt of oil in the "fifty foot" from the Gordon No. 2 and Vandergrift No. 1 on the Weirich to the Belmont Oil Company's gusher on the Smith. Then again, it is not definitely settled, up to January 18th, as to which rock affords the oil at the Smith farm well. At least, one of the owners, who has returned from Washington to Bradford, is not sure about it until measurements are taken. When the Farley well is drilled to the Gordon sand and the question concerning the producing horizon at the Smith is settled, more will be known about the range of country between the group of wells about the Gordon No. 1 and the Smith well, three and a quarter miles to the northeast.

The Gantz well will yet make a profitable producer, though she only produced 1408 barrels for the market in the year 1885. The Pew & Emerson well on the W. Gabby farm, 360 rods southwest of the Gantz, is a light affair but will make a small producer from the Gantz sand. The Associated Producers, Vandergrifts, Union Oil Co., Coasts, Grandins and Scheide, strong local companies, and other substantial producing firms are largely interested in the new field, and the end of the year 1886 will find it far from being in an experimental condition. During 1885 the shipments from the field were 10,526 barrels, a small amount and possibly but a tiny harbinger of what is to come. On the first day of the new year the monthly report showed thirteen rigs up and building and twenty-one wells which were drilling for the Gordon sands. In this article want of space forces us to pass over many points of interest in the new field,

December Production Report.

Reports of the stocks on hand at 6,020 Bradford wells showed an average decrease of two and six-tenths barrels to the well during December:

Time.	No. Wells.	Gross Stocks.	Average per well.
January 1, 1886	6,035	312,569	51.8
December 1, 1885	6,021	327,701	54 4
Difference	15	15,132	2.6

The number of wells in the Bradford field connected with the pipe lines on the 1st of January is estimated at 13,750. Estimating the entire Bradford region on the basis of two and six-tenths barrels decrease, the total decrease in stocks at wells during December was 35,750 barrels, a daily average of 1,153 barrels. Subtracting the decrease in stocks from the total runs as reported by the National Transit and Tidewater pipe lines, Bradford's daily average production for December is as follows:

	Barrels.
Average Daily Pipe Line Runs	30,376
Average Daily Increase of Stocks at Wells	1,153
Bradford's December Production, estimated	29,223
" November " "	31,355
Average Daily Decrease	2,132

These figures show a decrease of 2132 barrels a day in the production of the Bradford field during December.

THE ALLEGANY FIELD.

The Stock reports of the Allegany field are summarized as follows:

Date.	No. Wells.	Gross Stocks.	Average per well
January 1, 1886	1,134	38,832	3 .3
December 1, 1885	1 126	43,318	38.5
Difference	8	4,486	4.2

The wells from which reports were received had an average decrease of four and two-tenths barrels to the well during December. With 4,000 wells in the field on the 1st of January, these figures give a total decrease for the field of 16,800 barrels, or an average decrease of 542 barrels per diem. Subtracting this amount from the average daily pipe line runs, 6,738, the remainder, 6,196, will represent Allegany's production during December. The November average was 7,002 barrels.

These figures give an average decrease of 806 barrels a day in the production of the Allegany field for December.

WARREN, FOREST AND LOWER COUNTRY.

Reports were received from groups of wells in the different sections of Warren, Forest and the Lower Country. The number of wells on the 1st of each month, with their averages, are contained in the following statement:

Field.	No. Wells Dec. 1.	No. Wells Jan. 1	Average per well Dec. 1.	Average per well Jan. 1.
Clarendon and Tiona	206	214	25	30
Cherry Grove	22	22	47	48
Cooper District	146	146	65	50
Thorn Creek	61	61	135	121
Lower Country	89	89	61	55
Miscellaneous	160	160	106	97

Accepting the outside runs, which are made up of the producing fields outside of Bradford and Allegany, as representing the production outside of those two fields, an estimate on the yield for December and November is as follows:

Field.	December. Barrels.	November. Barrels.
Bradford	29,223	31,355
Allegany	6,196	7,002
Outside Runs	24, 84	23,087
Total	59,603	61.444

The above figures show a decrease in the production of 1841 barrels a day. In these estimates no account is taken of the "dump oil" loaded on the cars direct from the wells at Emlenton and other points in the region.

The following table shows the comparative production for 1883, 1884 and 1885:

	Bradford.		Allegany.		Outside Runs.		Total Prod.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
January	31,806	36,847	11,263	14,106	16,140	14,172	59,209	65,125
February	32,378	38,481	11,607	13,154	18 561	13,573	62,546	65,208
March	31,912	37,754	11,768	12,619	19,764	14,031	63.444	64,404
April	32,412	38,810	11,848	13,542	19,162	16,655	63,452	69,207
May	33,922	39,030	11,547	13,793	19,549	16,613	65 018	69.445
June	33,753	35,279	11,108	13,490	19,977	18 330	64,838	67,108
July	34,031	34,537	11,218	12,345	20,870	16,758	66,119	63,640
August	33,353	35,087	10.384	12,264	22,830	18,969	66,567	66,320
September	32,976	34,965	9,877	12 335	22,514	17,958	65,367	65,258
October	31,758	35,654	9,356	13,089	22,762	19,238	63,876	67,981
November	31,789	35,026	8 642	12,678	23,557	18,433	63,988	66,137
December	29,516	35,760	8,193	12,437	22,918	18,428	60,627	66,625
	1885.	1884.	1885.	1884.	1885.	1884.	1885.	1884.
January	28,675	31,806	8,260	11,264	18,594	16.140	55,529	59,240
February	27,051	32 378	7,196	11,607	19,800	18,561	54.047	62,596
March	26,444	31,912	7.342	11,768	19,923	19,764	53,709	63,444
April	27,413	32,412	7,169	11,848	23 067	19,162	57,649	63 452
May	27,231	33,922	7,019	11,547	21,225	19,549	55 505	65,018
June	29,272	33,753	7,463	11,108	21,559	19.977	58,294	64,838
July	30,309	34,031	7,139	11,218	19,273	20,870	56,721	66,119
August	29,858	33,353	7,065	10 384	18,608	22,830	55,531	66,567
September	30,205	32,976	7,186	9,877	21,269	22.514	58 660	65,367
October	30.180	31,758	6,747	9,356	23,161	22,762	60,088	63,876
November	31,335	31,789	7,002	8,642	23,087	23,557	61,444	63,988
December	29,223	29,516	6,196	8,193	24,184	22,918	59,603	60,627

In the above report no account is taken of the Macksburg field, which had an average production of about 1,971 barrels a day in December, 2,031 barrels in November and 2,053 barrels in October.

The People's Gas Co. and the City of Pittsburgh.

Messrs. Pew & Emerson, in behalf of the People's Natural Gas Company, have been having a strong fight with the Pittsburgh Council for admittance to the streets of the city. These enterprising gentlemen, after securing a large block of valuable gas territory, drilling a couple of good heavy gassers and piping the product at a heavy cost and under great difficulties to the city limits, were denied the privileges that had been granted to other corporations in the same business. On the 18th ult. the Company filed a bill in equity in Common Pleas Court No. 2 against the city of Pittsburgh, to restrain the city or its agents from interfering with the gas company in laying pipes in the city.

The bill recited that the plaintiffs had made repeated and strenuous efforts to secure from councils the privilege to enter upon the city's highways, beginning in June, 1885, until November 12, 1885, when the ordinance was absolutely defeated. That granting these privileges to the Philadelphia company and refusing them to the plaintiff, practically gave the company a monopoly of a business within the city that the plaintiff under its letters patent was entitled to share in. That the refusal to allow plaintiff to enter the city was an unlawful act of the councils, for the law and the constitution did not grant the power of special legislation to one or more companies for the supply of natural gas. The bill further averred that if the People's Company was allowed to cross Salina, Greenfield and Second avenues its connections would be complete, and gas could be immediately furnished consumers. The case was argued before Judges Ewing, White and Magee, and the plaintiff was granted a preliminary injunction. The time allowed for laying pipe ended December 31, and the People's Company had only a few days in which to complete their work. As soon as the court decided in its favor the company was at work laying its pipe along Second avenue. The decision of the court was a complete surprise to the city councilmen, and at their meeting on the 28th of December, they decided by a vote of 24 to 10 to carry the case to the Supreme Court. In the meanwhile, Pew & Emerson remain the victors.

THE KANE OIL FIELD.

When it was demonstrated that twenty-tive feet of rich brown sand had been found at the Craig & Cappeau well the oil producer felt that a field of broad geographical range had been discovered, and that getting territory on a line with the new well was reducing the business to a sure thing. One month ago the levels which Mr. P. T. Kennedy had taken of the different test wells clearly indicated a wrinkled and irregular rock formation which promised a field of small proportions. After going to the trouble to get this data he secured territory as near the pioneer well as it was possible to get. The data by which he arrived at such a conclusion is on record in the December AGE.

Thus far the hopes and expectations which were entertained for the Kane field have, through the agency of the cold, unfeeling center bit, vanished into the air. Since the Craig & Cappeau well startled the trade November 11th and caused a depression in prices of about 25 cents, four wells have been drilled into the sand, and some of them below its level, and not one has gladdened the hopeful eye of the prospector with a trace of oil The accurate map of the field published with this number is drawn on a scale of 300 rods to the inch and shows the exact location of the wells. This map is one of the finest that has been published in the AGE and speaks for itself in no uncertain manner.

The first one of the four failures to which the reader's attention is directed is the Murphy well, on the southeastern corner of Warrant 3778, about 1100 rods, or nearly three and a half miles southwest of the initial gusher on Warrant 3767. In drilling this well through the sand the wily Murphy deluded the public and kept the true situation at the well a secret until January 2nd. The sand was struck December 28th at a depth of 2151 feet. The drill disclosed the existence of 25 feet of sand and was stopped in a mixed formation 2200 feet below the surface. The elevation of the well above tide is reported at 1659 feet, which makes it 204 feet lower than the Craig & Cappeau. The top of the sand at the Murphy well is 492 feet below ocean level, and the dip of the rock from the Craig & Cappeau, according to corrected data, is about three feet to the mile. The elevations at the Murphy well, however, were taken with an Aneroid barometer, and cannot be relied upon.

The well drilled by the Associated Producers and Johnson along the line of warrant 3781, just 326 rods from the southwestern corner, not only failed to disclose any oil, but the drillers passed below the sand level without noticing any traces of the brown colored oil bearing sand. The mouth of the well is reported at 1674 feet above tide and is 189 feet lower than the Craig & Cappeau. At last accounts the well was 2281 feet deep and an utter failure. The well has since been drilled deeper without changing the first report which came from it.

The Tennent well on lot 424 is located on a 52° line in a northeasterly direction from the Craig & Cappean well and 514 rods from it. In its present condition it is a gasser and so far as drilled a failure as a producer of oil. The well is situated on a branch of Wind Run, is ninety-five rods from the west line of lot 424 and twenty-six rods from the south line. It is owned by J. C. Tennent, George C. Howe, H. H. Stow and C. H. Lavens, who have a number of farms leased besides the Berry, upon which the well is located. The mouth of the well is 1807 feet above ocean level and the top of the sand which was struck at 2260 is 453 feet below tide. While the well is reported a failure it will be drilled deeper before the final verdict is accepted by the trade.

The Chapman & Filkins well in the northeast corner of warrant 3782 is a little more than a mile southwest of the Craig & Cappeau well. It was completed January 15th and failed to disclose the existence of oil or gas. The sand, which had a thickness of eight feet, was struck at a depth of 2200 feet. The total depth of the well was 2254 feet. The well, by an engineer's level, is 1707 feet above tide, which makes it 156 feet lower than the Craig & Cappeau No. 1. The top of the sand at the Chapman & Filkins well is 493 feet below tide and from the Craig & Cappeau to this well there is a dip of eleven feet in the sand.

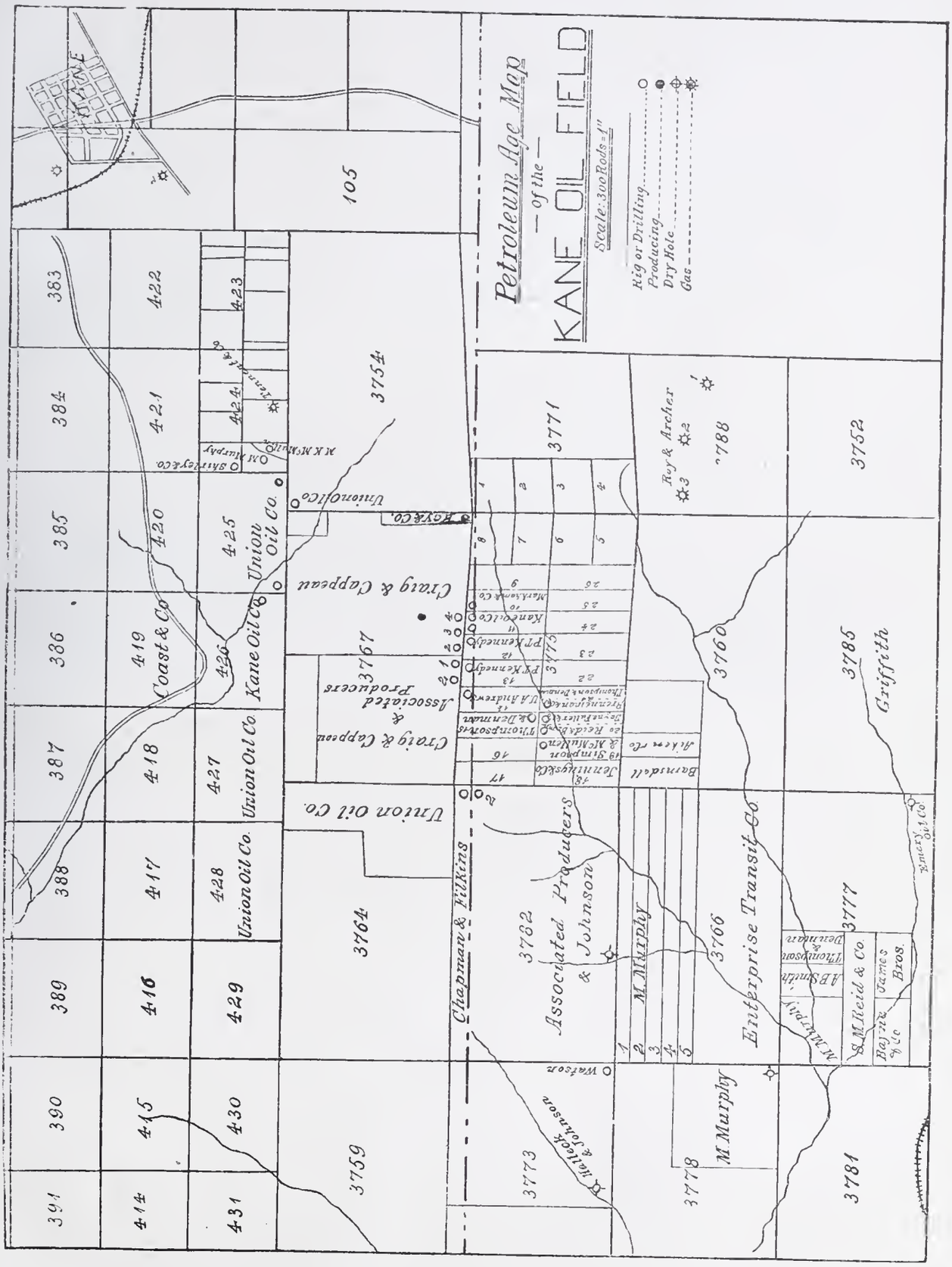
Mr. C. H. Filkins has kindly furnished us with a record of the well, which was carefully kept by the contractor, Mr. O. P. Boggs:

Drive Pipe	40	40
Clay	23	63
Slate	25	88
White pebbly sand	25	113
Slate	152	265
Sand and shells	40	305
Slate and shells	50	355
Well cased at 355.		
Red rock	200	555
Hard gray sand, with little gas	35	590
Slate and shells	104	694
Gray sand	25	719
Slate and shells	120	839
Gray sand	25	864
Slate and shells	125	989
Dark slate and shells	180	1169
Gray sand	15	1184
Dark slate and shells	135	1319
Light slate and shells	130	1449
Sand slate and shells	70	1519
Light slate and shells	140	1659
Dark slate and shells	97	1756
Gray sand	30	1786
Slate and shells	88	1874
Sand and shells mixed	100	1974
Slate	43	2017
Sand and shells	43	2060
Gray sand, with gas	30	2090
Slate and shell	70	2160
Black slate	40	2200
Top of sand	2200	
Brown sand, containing neither oil nor gas	8	2208
Slate below sand	46	2254
Total depth of well		2254

While the above classification of rocks may not be in accordance with the scientific standards established by Messrs. Ashburner and Carll, it is hoped that it will meet the demands of the driller who is perforating rocks in the wilds about Kane. There is still room for a belt whose axis shall have a bearing nearer to a north and south line extending in a northeasterly and southwesterly direction from the Craig & Cappeau well. But at the present writing it looks as if a pool very small compared with the first expectation is to be developed. On the first of December there were 17 rigs up and building and 15 wells drilling in the Kane field, and with the exception of two rigs on the disputed lease on lots 423 and 424, they are all shown and accurately located on the accompanying map.

AT the annual meeting of the Tidewater Pipe Co., Limited, in Titusville, January 20th, the following officers were elected: Chairman, Byron D. Benson; treasurer, Robert E. Hopkins; secretary, Andrew N. Perrin. These officers with Samuel Q. Brown and Harris C. Fahnestock, will constitute the board of managers.

BLUE print maps of Kane and Washington oil fields can be had, at $1.00 each, by addressing THE PETROLEUM AGE.


Petroleum Age Map
— of the —
KANE OIL FIELD
Scale: 300 Rods = 1"
Rig or Drilling
Producing
Dry Hole
Gas
105
383
384
385
386
387
388
389
390
391
422
421
420
419
418
417
416
415
414
423
425
427
428
429
431
3754
3764
3759
3767
3771
3782
3773
3778
3766
3760
3788
3752
3785
3777
3781
Union Oil Co.
Kane Oil Co
Craig & Cappeau
Associated Producers
Chapman & Kilkins
M Murphy
Johnson
Enterprise Transit Co
Griffith
Barnsdall
Roy & Archer
Coast & Co
Watson
Hathaway & Johnson
A M Reid & Co
James Bros.
Thompson & Deerhamer
A B Smith

REVIEW OF CRUDE PETROLEUM, 1885.

THE year recently ended has been an eventful one in the history of crude petroleum. While the extent of the older fields has been increased by the addition of fresh territory along their borders, and while several new pools have been added to the area of productive territory, the total output shows a marked decrease from that of previous years, as is fully set forth in the tables below.

At the beginning of the year the Gantz well at Washington had just commenced to attract attention to the possibilities of a petroleum field in a section of country remarkable for its immense production of natural gas and usually considered beyond the lines that were supposed to mark the great forty-five degree belt of oil deposits. The immediate results following the opening of the Gantz strike were not very encouraging. Later on the discovery of a new productive horizon, at a depth below the formation in which the Gantz well procured its oil, was the signal of reviving hopes for the new district. The year closed with 10,533 barrels as the twelve months' production of Washington county, but enough had been shown to mark it as a producing district that would probably prove of great importance during the ensuing year.

But the field that occupied the attention of the trade most exclusively during the early part of 1885 was that of Thorn Creek, in Butler county. The story of each day's development in this phenomenal field was eagerly scanned by hordes of speculators and producers, all carefully watching for the first signs of the inevitable decay. On the first of January there were 40 wells in this district, with an average production of 210 barrels each. In November 1884 the field had shown 18 wells, with one day's production of 15,445 barrels. The highest gauge recorded in 1885 was that of April 11, when 89 wells were producing 12,290 barrels of oil. On July 18th, 156 producing wells gauged 2956 barrels. On August 22, there were 157 wells and the production had dropped to 2174 barrels. The field had then passed out of public notice, but its daily average production for 1885 was 4967 barrels, an increase of 1466 barrels over the average of the preceding year.

Cogley Run, in Clarion county, is another district that helped make 1855 an eventful year in the annals of crude petroleum. Its initial well, that of the Cogley Oil Co. on the Berlin farm, was tubed January 8th, and its first two weeks' production is recorded at 150 barrels. From this humble beginning the little pool slowly advanced, until a belt nearly five miles in length has been developed, and a production of above 700,000 is credited for the field on the pipe line books. The month of December defined the southwest end of the new field, and the zenith of its productive powers was passed in November, for which month the pipe line runs show a daily average production of 5416 barrels.

The Macksburg, Ohio, district likewise rose to prominence during the year just closed. It was speedily hemmed in on all sides by a seemingly impassable barrier of hopeless dusters, and the developments of the past eight months have been confined to sure and well paying territory. Its production as shown by the pipe line runs reached its highest point in July, when the field averaged 2441 barrels per diem, and since then it has been slowly dropping off from month to month. Its December average was 1971 barrels a day.

The Clarendon district, as the large area of close pebble rock territory, in Warren county, stretching from Stoneham on the north, to Tiona and Farnsworth on the south, is generally called, has been gradually enlarged on all sides during the past year. The wells are very small, but their aggregate production is an important factor to the refineries who depend on this field for their supply of amber oil. Kinzua village has furnished the trade with a little excitement in the line of gusher wells, at odd times in the last twelve months, but the present outlook is for a pool of moderate proportions. A single well in the woods southwest of Kane furnished the pretext for a heavy bear raid upon the oil market, and caused the investment of thousands of dollars in prospective oil territory in that locality, but at the close of the year no indications of the future extent or probable productiveness of the new producing centre were visible.

The Bradford and Allegany fields still produce five-eighths of the petroleum supply of the United States, but the average daily runs for the two fields for 1885 are 7245 barrels short of the average for the preceding year. Bradford's pipe line runs are 3824 barrels a day less, and Allegany's 3421, than in 1884. Production in these fields has been held up to the above figures only by the use of nitro glycerine to an extent hitherto unknown in the history of petroleum. It remains to be demonstrated whether the flagging life of these old fields can be maintained at the present point for another year. A drop for 1886, equal in amount to that of 1885, will show the two fields together producing at the close of 1886, an amount just equal to Bradford's runs for the past year.

In the following tables the results of the year's business are presented in a concise and comprehensive manner:

STOCKS IN THE REGION.

	Barrels.
Net Stocks Custody Pipe Lines, Dec. 31, 1885,	33,539,038
" " " Dec. 31, 1884,	36,872,892
Decrease,	3,333,854
Daily Average Decrease 1885,	8,860
" Increase 1884,	3,162
" 1883,	3,782

There has been a steady decrease in the stocks throughougt every month of 1885. While the stocks on hand had increased every year since 1877, a decline begun in September, 1884, that has been constant up to the present.

PIPE LINE RUNS 1885.

Pipe Line.	Barrels
National Transit Co.,	18,490,172
Tidewater,	2,298,018
Octave Oil Co.,	35,248
Franklin, Limited,	87,424
Cranberry,	13,046
Pittsburgh Pipe,	133,926
Shaffer and Charley Run (partially)	3,372
Total Pipe Line Runs 1885,	21,061,206
" " " " 188 ,	23,584,860
Decrease,	2,523,654
Daily Average Runs for 1885,	57,702
" " " " 1884,	64,439
Average Decrease per diem, 1885,	6,737
" " " 1884,	2,364
Daily Average Runs, 1883,	66,803
" " " 1882,	86,713
Total Runs New York and Pennsylvania,	21,061,206
Runs Macksburgh Pipe Line, 1885,	613,822
	21,675,028
Daily Average Runs, 1885, including Macksburgh,	59,384
Daily Average Runs, 1884, including Macksburgh,	64,668
Decrease, including Macksburgh,	5,284

The figures on Macksburg are gross runs and incomplete, as no reports of the oil taken by Rice's Marietta pipe line were made during the past year. The amount, however, was small and will not materially affect the deductions made in this review.

SHIPMENTS FROM THE REGION.

Pipe Line.	Barrels.
National Transit,	21,305,247
Tidewater,	2,235,818
Octave,	33,861
Franklin, Limited,	78,338
Cranberry,	12,942
Charley and Shaffer Run,	14,189
Pittsburgh,	126,451
Total Shipments, 1885,	23,806,846
" 1884,	23,502,130
Increase in Shipments,	304,716
Daily Average Shipments for 1885,	6 ,224
" " 1884,	64 211
Average Increase per diem,	1,013
Daily Average Shipments for 1883,	60,185
" " 1882,	61,024

RUNS AND SHIPMENTS COMPARED.

	Barrels.
Total Shipments for 1885,	23,806,846
" Runs for 1885,	21,061,206
Excess of Shipments over Runs, 1885,	2,745,640
Total Runs for 1884,	23,584,860
" Shipments for 1884,	23,502,130
Excess of Runs over Shipments, 1884,	82,730

The above difference, 2,745,640 barrels, which is the excess of shipments over runs in 1885, represents the decrease in gross stocks during the past year. But, as shown above, the net stocks were decreased 3,333,854 barrels. The apparent discrepancy is made up by the increase in the sediment and surplus account, which, at the close of 1884, for the National Transit and Tidewater lines, amounted to 2,623,219, and at the close of 1885 had increased to 3,132,829 barrels. In 1884 the runs exceeded the shipments by 82,730 barrels. Stocks were reduced by fire but slightly during the year, the only tank destroyed being No. 297, located at Carrollton, which burned on June 28th with 9101 barrels of oil.

FIRE LOSS, 1885.

Date.	Tank.	Location.	Barrels.
June 28,	297	Carrollton,	9,101

FIRE LOSS, 1884.

June 1,	298	Karns City,	22,636
June 21,	1,423	Colegrove,	34,627
Sept. 10,	847	Olean,	27,695
Dec. 26,	1,611 / 1,612	West Junction,	56,091
Total,			141,049
Loss, 1884,			9,101
Difference,			13 ,918

EXPORTS FROM THE UNITED STATES.

	Gallons.
Total Exports from United States, Refined, etc., 1885,	542,770 953
" " " " 1884,	526,444,163
Total Increase, Gallons,	16,326,790
Average Daily Increase, Gallons,	44,731

WELLS COMPLETED.

	1885.			1884.		
	Productive.	Dry.	Total.	Productive	Dry.	Total.
January	60	19	79	197	19	216
February	51	10	64	241	18	259
March	80	17	97	262	20	282
April	119	12	131	282	22	304
May	181	31	212	286	29	315
June	214	35	249	240	28	268
July	215	27	242	160	28	188
August	246	40	286	128	21	149
September	314	43	357	75	15	90
October	353	44	397	63	16	79
November	335	53	388	63	26	86
December	310	45	355	58	15	73
	2481	376	2857	2055	257	2309
Total, 1884	2052	257	2309			
Increase	429	119	548			

THE CRUDE MARKET.

	1885.				1884.			
	Highest	Lowest	Fluctuation.	Average.	Highest	Lowest	Fluctuation.	Average.
January	75⅞	68	7⅞	70¾	115¾	106⅞	8⅞	111⅛
February	85	68⅝	16⅜	73⅛	110⅞	98⅛	12¾	104⅜
March	84	76	8	80⅜	106⅝	92⅞	13¾	100⅛
April	81½	77⅛	4⅜	78⅞	99	90¼	8¾	94
May	81½	76¾	4¾	79⅝	103½	66	37½	85½
June	96	78	18	82¼	79	51	28	68⅜
July	103	89⅞	13⅛	96⅜	75	57½	17½	63½
August	105	97¾	7¼	100⅜	93½	73	20½	81¼
September	103	98¾	4¼	100¾	92¼	70½	21¾	78
October	112⅝	100⅛	12½	105½	81¾	59⅜	22⅛	71
November	111⅞	88	23⅞	104⅜	79¾	67⅜	12⅛	72½
December	93½	85⅛	8⅜	89⅝	80⅝	67¾	12⅞	74⅜
For								
1885	112⅝	68	44⅝	88½				
1884	115¾	51	64¾	83¾				
1883	125	84⅛	40¼	105¾				
1882	135	49¼	85¾	78¾				
1881	100½	72	28½	85				
1880	124⅜	70⅜	53¾	94				

PIPE LINE RUNS BY FIELDS.

FIELD.	Total Runs. 1885.	Daily Average. 1885.	Daily Average. 1884.
Bradford	10,668,255	29,228	33,052
Allegany	2,644,057	7,244	10,665
Cherry Grove	135,810	372	724
Cooper	340,925	934	2,745
Balltown	348,100	953	2,206
Wardwell	148,806	702	2,550
Baldridge	1,813,020	4,967	3,501
Cogley	701,001	3,048	----
Other Fields	4,261,232	10,251	8,996
Total	21,061,206	57,702	64,439
Macksburg	61 ,822	1,682	229
Total	21,675,028	59,384	64,668
	1884	1884.	1883.
Bradford	12,09 ,950	33,052	34,181
Allegany	3,903 594	10,665	12,931
Cherry Grove	264 942	724	2, 70
Cooper	1,004,849	2,745	3,001
Balltown	807,506	2,206	2,127
Wardwell, 9 mos.	701,226	2,500	----
Baldridge, 9 mos.	962,801	3,501	----
Other Fields	3 842,992	8,996	12,493
Total	2 ,584,860	64,439	66,803

The statistical history of the year 1885 may be briefly summed up as follows:

1. The net stocks in the region were decreased during the year 3,333,854, equal to a daily average of 9134 barrels.

2. The pipe line runs from the Pennsylvania and New York fields decreased at the rate of 6737 barrels per day. Including the Macksburg, Ohio, field the decrease is 5284 barrels a day.

3. The shipments from the region averaged 1013 barrels per diem more than during the preceding year.

4. The fire loss for 1885 was 131,948 barrels less than in 1884.

5. The exports of petroleum increased at the rate of 44,731 gallons a day.

6. The number of productive wells completed in 1885 was 429 greater than in 1884 and the dry holes drilled were 119 in excess of those completed in 1884.

7. The highest price of oil certificates in 1885 was 2⅞ cents less than the highest price in 1884, and the lowest price was 17 cents higher than the bottom figures of 1884.

8. The average price for 1885 was 4¾ cents better than the average price for 1884.

9. Of the total amount of oil produced in 1885 the Bradford field is credited with 51 per cent., Allegany with 12½ per cent., while all other fields and districts produced but 36½ per cent.

The results for 1884 were tabulated under the following heads:

1. The net stocks in the region during 1884 were increased 1,157,327, equal to a daily average of 3,162 barrels.

2. The pipe line runs decreased at the rate of 2,364 barrels a day.

3. The shipments from the region averaged 4,026 barrels per diem more than during the preceding year.

4. The exports of petroleum increased at the rate of 33,994 gallons a day.

5. There were 599 fewer productive wells completed in 1884 than in 1883, and the number of dry holes drilled was 22 in excess of the number drilled during 1883.

6. The highest price of oil certificates in 1884 was 9¼ cents below the highest price in 1883, and the price fell lower by 33¾ cents than the lowest price of the preceding year.

7. The average price for 1884 was 22 cents less than the average price for 1883.

8. Of the total amount of oil produced in 1884 the Bradford field is credited with 51 per cent., Allegany with 12 per cent., while all the other fields and districts produced but 37 per cent.

Annual Report of the McCalmont Oil Co.

The McCalmont Oil Co. held its annual meeting on the 14th of December, when its former officers were re-elected. They are as follows: President and Manager, David Kirk; Vice President, F. A. Dilworth; Secretary and Treasurer, T. E. Tack: Superintendent of Ohio Division, I. E. Dean. Directors: David Kirk, A. H. Tack, F. A. Dilworth, T. E. Tack, George W. Dilworth, I. E. Dean. The annual report is substantially as follows:

Net earnings of the year 1885		$120,228 82
Wells owned by Company	589	
Royalty wells, fee owned by the Company	113	
Total	702	
Daily production at close of the year (bbls)		1,167.27

ASSETS.

Producing property—702 wells and oil at same	$697,190 61
Undrilled territory	33,262 50
Bills receivable, secured by bond and mortgage	68,825 12
Good accounts due	7,607 93
Oil in line	5,074 24
Shop, machinery, drilling tools, horses and supplies	12,425.31
Bradford and Richburg offices, safes and furniture	2,100 00
Cash	4,575 31
Total	$830,171 02

LIABILITIES.

Capital stock	$500,000 00
Debts	302,598 50
Profit and loss	27,572 52
Total	$830,171 02

The total amount of oil produced during the year 1885 was 404,323.38 barrels and the total sold was 416,920.65 barrels, a reduction in the stocks of 12,597.27 barrels. The average price received for the oil was 92 and 22-100 cents per barrel.

At the close of the year the daily production from the 589 wells which the company own in the different fields, with the royalty from 113 other wells, aggregated 1167 barrels.

Farmer Dean represents the company in the Buckeye State, and through his endeavors they have secured a half interest in leases in 50,000 acres of territory in the Lima and Findlay field. Under President Kirk's able management the company tides over all depressions which affect the trade, and the McCalmont is in a flourishing condition.

Main Track Shipments.

The amount of oil shipped on the cars from Emlenton and points below Oil City for the year 1885, is shown in the following table. This oil is not included with the shipments of the pipe lines:

MONTH.	CARS.	BARRELS.
January	125	10,875
February	114	9,918
March	120	10,450
April	140	12,200
May	115	10,005
June	116	10,092
July	119	10,363
August	152	13,224
September	136	11,832
October	147	12,789
November	113	9,811
December	136	11,696
Total	1533	133,255
Daily average,		365.

The Volume of Speculative Business.

The speculative trade in crude petroleum certificates during the past three years has shown a wonderful advance. The adoption of the clearing house system by the various Exchanges has proved a great advantage in facilitating and increasing the volume of business. The consolidation of the two Petroleum Exchanges at New York was effected in May, 1885. The old Exchange at Pittsburgh succumbed to its powerful young rival during the past year, and the Producers' Exchange at Bradford quietly went out of active business early in February. The volume of speculative business in petroleum for the past three years, as measured by the clearances of the principal Oil Exchanges, is set forth in the following table:

	1883.	1884.	1885.
New York (Petroleum)	708,146,000	2,353,582,000	424,344,000
New York (Consolidated)	1,034,971,000	3,192,890,000	3,146,823,000
Oil City	1,955,742,000	2,330,902,000	1,469,09 ,000
Bradford	1,458,506,000	1,640,456,000	916,068,000
Pittsburgh (old)	1,450,000,000	789,237,000	
Pittsburgh (new)		843,416,000	797,827,000
Philadelphia	22,848,000	96 059,000	317,976,000
Total	6,670,213,000	11,246,542,000	7,072,128,000

COMMENCING January 20th, 1886, the Buffalo, New York & Philadelphia Railroad Company will sell 1000-mile tickets, good for passage between all stations (except the narrow gauge system), at $20 each. These tickets will be good for one year from date of purchase, and when issued to the head of a family may be used by any of the members of the family presenting the ticket, traveling either separately or together, and when issued to a business house or firm may be used by any member or representative thereof, but by not more than one person at a time. Further information regarding these tickets will be furnished by any ticket agent of the company.

ON January 20th, at Philadelphia, Charles N. Reed, of New York, presented to the Supreme Court of Pennsylvania a printed brief, petitioning for a rehearing and reargument in the case of Milton Weston, now under sentence of five years imprisonment for voluntary manslaughter. The sentence was pronounced by the Allegheny court and sustained by the Supreme Court, after an argument for a new trial. The latter court, however, granted a stay of proceedings until the 26th inst., to allow of the filing of the above mentioned brief.

THE Raccoon Oil Company consists of J. A. Tomlinson, of Edenburg, Pa., A. F. Allen Brown, of Jamestown, N. Y., W. C. Kelley, of Bradford and his brother J. V. Kelley and Captain Peter Grace. They are operating for oil in the Shoustown section in Beaver county, and the company gets its name from a stream in that section.

DR. W. P. BOOK and Mayor P. M. Shannon, of Bradford, have leased quite a large amount of lands in the Shoustown and Mt. Nebo country. At an early day they will sink a number of wells in this section.

SINCE August 31, 1884, the net stocks in the custody of the different pipe lines have been decreased 5,546,966 barrels, or at the rate of 346,685 barrels per month.

PARTIES having any of the numbers of Vol. I. of the AGE to sell will please address the publishers, Box 1996, Bradford, Pa.

TIFFIN, O., comes to the front with a fair gas well, whose estimated capacity is 500,000 cubic feet a day.